COUNTY

SCOPING COMMENTS

County of Santa Clara

Parks and Recreation Department

298 Garden Hill Drive
Los Gatos, California 95032-7669
(408) 355-2200 FAX 355-2290
Reservations (408) 355-2201
www.parkhere.org

December 14, 2005

Dan Leavitt, Deputy Director of the California High-Speed Rail Authority
California High-Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Re: California High-Speed Train Notice of Preparation for a Program EIR/EIS for a Bay Area to Central Valley High Speed Train

Dear Mr. Leavitt:

The Santa Clara County Parks and Recreation Department has reviewed the Notice of Preparation (NOP) for a Program EIR/EIS for a Bay Area to Central Valley High Speed Train and submits the following comments.

The Department concerns are in relation to the potential impacts to regional parks and recreation in Santa Clara County from the proposed project. In addition, we would like the Program EIR/EIS to consider future land use impacts in accordance with the Parks and Recreation Element of the *County of Santa Clara General Plan* and the *Santa Clara County Countywide Trails Master Plan Update* (1995). A copy of the Countywide Trails Master Plan is located on the County parks web-site at www.parkhere.org under Planning and Development.

Santa Clara County Parks and Recreation Department owns and operates 27 park units encompassing approximately 45,000 acres. The Bay Area to Central Valley High Speed Train corridors would potentially impact several County parks depending upon the corridor route selected. Under the Public Park Preservation Act of 1971, voter approved County Charter Amendment, and Code of Civil Procedures section 1240.680, the Department has the responsibility for reviewing and assessing all projects with the potential to encroach upon, or impact County parklands. Further, the Department is required to conduct environmental review of any project which may impact parklands.

In addition, County parklands contain a number of sensitive and protected species and habitats and the Department is charged with the responsibility to provide, protect, and preserve regional parklands including management of these natural resources. Additionally, we are under the regulatory oversight of local, federal, and state agencies, such as Santa Clara Valley Water District, and National Marine Fisheries Service (NOAA), necessitating that we conduct additional review of projects which may impact these resources or that require enhancement of habitats which exist in County parklands.

The Program EIR/EIS for the Bay Area to Central Valley High Speed Train should address County parks and parklands that are located within the vicinity of the proposed project. County parks in the project vicinity include Coyote-Hellyer County Park, Motorcycle County Park, Anderson Lake County Park, and Coyote Creek Parkway.

Currently, the Parks and Recreation Department is preparing an Integrated Natural Resource Management Plan and Master Plan for Coyote Creek Parkway County Park. This Park is an outstanding example of a regionally significant riparian habitat and contains numerous sensitive species and habitats. As such, the Department is anticipating discussions with a number of regulatory agencies regarding the resource management activities and recreation improvements to the park. Among these is the Santa Clara Valley Water District whose responsibility is the control of the creek waters.

In addition, the program EIS/EIR should consider the planned regional trail routes shown in the *Santa Clara County Countywide Trails Master Plan Update* (1995). Future alignment construction in this area should take into consideration the future placement of proposed trail alignments for the Juan Bautista de Anza National Historic Trail, Bay Area Ridge Trail, Coyote Creek /Llagas Creek Trail. In addition, the Monterey-Yosemite State Trail is located along Pacheco Pass, from San Benito County to Merced County.

Other Countywide Projects:

Santa Clara County is currently preparing an HCP/NCCP requiring additional environmental review of any proposed or current projects within the HCP/NCCP project area which encompasses most of Santa Clara County. For more information on the scope and requirements of this project, please contact Mr. Kenneth Schreiber, HCP/NCCP Program Manager at (408) 299-5789; Office of the County Executive, County Government Center, East Wing, 11th Floor, 70 West Hedding Street, San Jose CA 95110. email: ken.schreiber@pln.sccgov.org.

You should also be made aware of an existing multi-agency fisheries management plan for Coyote Creek, Stevens Creek and Guadalupe River in Santa Clara County. The Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) and subsequent projects, plans and agreements began in 1997. Signatory agencies include Santa Clara Valley Water District, National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Regional Water Quality Control Board, San Francisco Bay Region, and State Water Resources Control Board. Inquires about FAHCE should be directed to one of the participating agencies.

The Santa Clara County Parks and Recreation Department requests that you contact us directly when discussions involving County parklands occur. Please also add the Department to your mailing list for future information. If you have any questions, please feel free to contact Antoinette Romeo, Park Planner, at (408) 355-2235 or Antoinette.Romeo@prk.sccgov.org. or Mark Frederick, Planning and Development Program Manager at (408) 355-2210 or Mark.Frederick@prk.sccgov.org. Thank you for the opportunity to comment on the California High-Speed Train NOP and we look forward to providing input on the Draft Program EIR/EIS.

Sincerely,

Antoinette Romeo

Antoinette Romeo
Park Planner

CC: Lisa Killough, Director, Santa Clara County Parks and Recreation Department
Mark Frederick, Planning and Development Program Manager, Santa Clara County Parks and Recreation Department

MERCED COUNTY

Merced County
Administration Building
2222 "M" Street
Merced, CA 95340
(209) 385-7366
(209) 726-7977 Fax
www.co.merced.ca.us

November 28, 2005

NOV 2 8 2005

Mr. Mehdi Morshed, Executive Director
California High-Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

RE: Notice of Preparation of a Program Environmental Impact Report / Environmental Impact Statement for a Bay Area to Central Valley High-Speed Train

Dear Mr. Morshed:

As a member of the Rail Committee for Merced County and a representative of the San Joaquin Valley Rail Committee, I would like to express my disappointment with the above notice and the One Scoping Meeting that will be held in the Central Valley and, in addition, the fact that it is being held in Modesto. As noted in the letter for above EIR/EIS, the Public Scoping Meetings scheduled for the Regional Rail Plan Workshops are an important component of the process for both the state and federal environmental review.

I believe to make this project a success for the entire Central Valley, consideration should be given to scheduling a Scoping Meeting for our friends to the South. Please consider this such a request.

Thank you for your consideration in this matter.

Sincerely,

John Pedrozo
Supervisor, District One

JP:lab

County of Santa Cruz

BOARD OF SUPERVISORS

701 OCEAN STREET, SUITE 500, SANTA CRUZ, CA 95060-4069

(831) 454-2200 FAX: (831) 454-3262 TDD: (831) 454-2123

JANET K. BEAUTZ	ELLEN PIRIE	MARDI WORMHOUDT	TONY CAMPOS	MARK W. STONE
FIRST DISTRICT	SECOND DISTRICT	THIRD DISTRICT	FOURTH DISTRICT	FIFTH DISTRICT

November 18, 2005

NOV 22 2005

Mehdi Morshed, Executive Director
California High-Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Dear Mr. Morshed:

The Board of Supervisors has received your letter dated November 14, 2005, providing notice of the preparation of a Program Environmental Impact Report/Environmental Impact Statement for a proposed California high-speed train system. While this train system is not proposed to travel through areas in Santa Cruz County, a copy of your letter has been provided to each Supervisor, the County's Planning and Public Works Departments, and to the Santa Cruz County Regional Transportation Commission.

Sincerely,

TONY CAMPOS, Chairman
Board of Supervisors

TC:ted

cc: Clerk of the Board
Each Supervisor
Planning Department
Public Works Department
Santa Cruz County Regional Transportation Commission

3560C6

THOMAS R. FLINN
DIRECTOR

THOMAS M. GAU
DEPUTY DIRECTOR

MANUEL SOLORIO
DEPUTY DIRECTOR

STEVEN WINKLER
DEPUTY DIRECTOR

ROGER JANES
BUSINESS ADMINISTRATOR

Public Works
San Joaquin County
Working for YOU

P. O. BOX 1810 - 1810 E. HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
(209) 468-3000 FAX (209) 468-2999
www.sjgov.org

DRAFT – HARD COPY TO FOLLOW

January 3, 2006

Mr. Dan Leavitt
Deputy Director
California High-Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

SUBJECT: NOTICE OF PREPARATION OF A PROGRAM ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT FOR A BAY AREA TO CENTRAL VALLEY HIGH-SPEED TRAIN

Dear Mr. Leavitt:

San Joaquin County Department of Public Works has reviewed the above mentioned document and has the following comments:

1. San Joaquin County requests any alignment or portion thereof proposed to be located in unincorporated San Joaquin County obtain its own rights of way or easements and not utilize existing County rights of way.
2. Please advise San Joaquin County of all project-related development team and public meetings at least two weeks in advance at the following address:
   Transportation Planning Division
   Attention: Michael Selling
   PO Box 1810
   Stockton, CA 95201
   Email: mselling@sjgov.org

Thank you for the opportunity to comment. Should you have any questions or need additional information, please contact me at 209.468.8494.

Sincerely,

Andrea Vallejo
Assistant Transportation Planner

C: Michael Selling, Senior Civil Engineer

Dan Leavitt

From: Carrie Pourvahidi
Sent: Friday, December 16, 2005 3:08 PM
To: 'Ellen Unsworth'
Cc: Dan Leavitt
Subject: FW: EIR/EIS Comments

-----Original Message-----
From: HSR_Online_Comments@hsr.ca.gov [mailto:HSR_Online_Comments@hsr.ca.gov]
Sent: Friday, December 16, 2005 10:41 AM
To: Carrie Pourvahidi
Subject: EIR/EIS Comments

Date: 12/16/2005

Title:
Name: Sue Tippets
Organization: Santa Clara Valley Water District
Occupation:

Email: stippets@valleywater.org
Phone: 408.265.2607x2253
Fax:
Street: 5750 Almaden Expressway
City: San Jose
State: CA
Zip: 95118

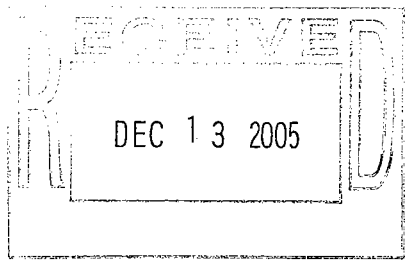
Comments:
The Santa Clara Valley Water District has jurisdiction and permitting authority over the streams and watercourses within Santa Clara County. We are interested in any alignments that cross over (or under) any of these streams. In addition we are interested in any impacts created by the alignment to the 1% or 100 year floodplain and any mitigation measures proposed to ameiorate impacts to the floodplain. Because of our local permitting authority, the District should be considered a responsible ageny.

CITY

SCOPING COMMENTS

CITY OF MOUNTAIN VIEW

Public Works Department • 500 Castro Street • Post Office Box 7540 • Mountain View, California 94039-7540
650-903-6311 • FAX 650-903-6499



December 8, 2005

MR DAN LEAVITT—DEPUTY DIRECTOR
CALIFORNIA HIGH-SPEED RAIL AUTHORITY
925 L STREET SUITE 1425
SACRAMENTO CA 95814

NOTICE OF PREPARATION FOR THE PROGRAM ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT FOR THE BAY AREA TO CENTRAL VALLEY HIGH-SPEED TRAIN

Dear Mr. Leavitt:

On behalf of the City of Mountain View, I am writing to provide comments on the scope of the planned Program Environmental Impact Report/Environmental Impact Statement (Program EIR/EIS) for a Bay Area to Central Valley high-speed train (HST) project. Mountain View's comments focus on the potential effects to our City of an alignment along the Caltrain corridor through Mountain View and do not constitute a position on the project.

Of particular concern is the impact of grade-separating the at-grade crossing of Castro Street, the main street in Mountain View's downtown business district. A grade separation at this location could have significant impacts to the businesses on Castro Street adjacent to the Caltrain tracks and to the Downtown Mountain View Transit Center, a multi-modal transit hub providing Caltrain commuter rail, Valley Transportation Authority light rail, bus and employer shuttle services. The City's recently constructed Transit Plaza and train station building, which are adjacent to the Transit Center, could also be affected.

Possible impacts to these areas include impaired or blocked access, acquisition of public and private property, demolition of structures and relocation of businesses and residents. We request the Program EIR/EIS thoroughly analyze all the site-specific impacts to this area and identify measures to fully mitigate them.

Another area of concern is the at-grade crossing at Rengstorff Avenue. Mountain View has conducted a feasibility study for a grade-separated crossing at this location as there is significant traffic congestion resulting from current Caltrain operations. The feasibility study concluded a grade separation could reduce traffic congestion at this major intersection; however, several adjacent properties could need to be acquired and

business and residential relocations could be necessary. When analyzing potential alternatives, the results of the City's feasibility study should be taken into consideration. A copy of the study is available upon request.

The Program EIR/EIS should also identify mitigation measures for more general impacts to the community, including increased noise, as much of the area surrounding the Caltrain corridor is residential.

Thank you for providing us with the opportunity to comment on the scope of this document and City staff are willing to meet with your staff to discuss the environmental document. Please feel free to contact Peter Skinner, Senior Administrative Analyst, at (650) 903-6311 if you would like to schedule a meeting or if you have any questions regarding our comments.

Sincerely,

Cathy R. Lazarus
Public Works Director

CRL/PS/9/PWK
904-12-08-05L-E^

cc: CM, TMP, SAA—Skinner, F/c

CITY OF LIVERMORE

"Wine Country Since 1849"

ADMINISTRATION BUILDING
1052 S. Livermore Avenue
Livermore. CA 94550-4899
Ph: (925) 960-4000
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TDD (925) 960-4104
www.ci.livermore.ca.us

MAYOR / COUNCIL
Ph: 960-4010 • Fax: 960-4025

CITY MANAGER
Ph: 960-4040 • Fax: 960-4045

CITY ATTORNEY
Ph: 960-4150 • Fax: 960-4180

RISK MANAGEMENT
Ph: 960-4170 • Fax: 960-4180

CITY CLERK
Ph: 960-4200 • Fax: 960-4205

COMMUNITY DEVELOPMENT
Ph: 960-4400 • Fax: 960-4459
Building Division
Ph: 960-4410 • Fax: 960-4419
Engineering Division
Ph: 960-4500 • Fax: 960-4505
Housing & Human Services Division
Ph: 960-4580 • Fax: 960-4149
Planning Division
Ph: 960-4450 • Fax: 960-4459

ECONOMIC DEVELOPMENT
Ph: 960-4140 • Fax: 960-4149

FINANCE DEPARTMENT
Ph: 960-4300 • Fax: 960-4309

FIRE DEPARTMENT
4550 East Avenue
Ph: 454-2361 • Fax: 454-2367

LIBRARY
1000 S. Livermore Avenue
Ph: 373-5500 • Fax: 373-5503

HUMAN RESOURCES
Ph: 960-4100 • Fax: 960-4105

POLICE DEPARTMENT
1110 S. Livermore Avenue
Ph: 371-4900 • Fax: 371-4950
TDD 371-4982

PUBLIC SERVICES
3500 Robertson Park Rd.
Ph: 960-8000 • Fax: 960-8005
Airport Division
636 Terminal Circle
Ph: 373-5280 • Fax: 373-5042
Golf Course Division
909 Clubhouse Drive
Ph: 373-5239 • Fax: 373-5203
Maintenance Division
3500 Robertson Park Rd.
Ph: 960-8020 • Fax: 960-8025
Water Resources Division
101 W. Jack London Blvd.
Ph: 960-8100 • Fax: 960-8105

December 20, 2005

Mr. Dan Leavitt, Deputy Director
California High Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Dear Mr. Leavitt:

Thank you for providing the Notice of Preparation (NOP) for the proposed California High-Speed Train System Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Bay Area to Central Valley High Speed Train (HST). The City of Livermore supports the concept of a HST system in California, with a Northern Mountain Crossing alignment through the Altamont Pass (I-580).

The "Alternatives Description" in Attachment A of the NOP includes a list of potential station locations for the HST system. Currently, the City of Pleasanton is listed as a potential Tri-Valley station location. We are writing to reinforce the consideration of a Tri-Valley station for the HST system, but also to request that you consider a HST station located within the City of Livermore as an alternative.

We believe that a HST station in the City of Livermore would provide an appropriate location to address system ridership needs, community needs, and station area development principles as outlined in the Final Program EIR/EIS for the proposed California HST System. The City has the potential for continued employment growth and strongly supports high density residential development adjacent to transit corridors, including the existing Altamont Commuter Express (ACE) train stations and planned future Bay Area Rapid Transportation (BART) stations.

The Final Program EIR/EIS emphasizes that all selected HST stations will be "multi-modal hubs" and have "the most potential to support infill development and transit-oriented-development." Consistent with those principles, the City of Livermore is planning a multi-modal station at the proposed Greenville BART station site. As currently planned, the station

would include BART, ACE, and the Livermore Amador Valley Transit Authority bus service in addition to over 3,000 units of high density housing and office and commercial development in a mixed use transit-friendly configuration. We ask that you consider this or other sites within the City of Livermore for a potential HST station. We look forward to working with you to further refine this or other potential station location alternatives.

The Livermore City Council will conduct a workshop on January 30, 2006, regarding regional rail alternatives. Comments form the workshop will be forwarded to your agency.

We hope you will consider the City of Livermore for a potential HST station site. If you have any questions, please feel free to contact Debbie Bell at (925) 960-4467.

Sincerely,

Eric Brown
Planning Manager

c. Marc Roberts
Cheri Sheets
Susan Frost
Bob Vinn
Debbie Bell

Building
TEL 650.330.6704
FAX 650.327.5403

City Clerk
TEL 650.330.6620
FAX 650.328.7935

City Council
TEL 650.330.6630
FAX 650.328.7935

City Manager's Office
TEL 650.330.6610
FAX 650.328.7935

Community Services
TEL 650.330.2200
FAX 650.324.1721

Engineering
TEL 650.330.6740
FAX 650.327.5497

Environmental
TEL 650.330.6763
FAX 650.327.5497

Finance
TEL 650.330.6640
FAX 650.327.5391

Housing & Redevelopment
TEL 650.330.6706
FAX 650.327.1759

Library
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FAX 650.327.7030

Maintenance
TEL 650.330.6780
FAX 650.327.1953

Personnel
TEL 650.330.6670
FAX 650.327.5382

Planning
TEL 650.330.6702
FAX 650.327.5403

Police
TEL 650.330.6300
FAX 650.327.4314

Transportation
TEL 650.330.6770
FAX 650.327.5497

CITY OF MENLO PARK

701 LAUREL STREET, MENLO PARK, CA 94025-3483
www.menlopark.org

January 5, 2006

California High-Speed Rail Authority
Attn: California High-Speed Train
Notice of Preparation for Bay Area to Central Valley EIR/EIS
925 L Street, Suite 1425
Sacramento, CA 95814

Subject: City of Menlo Park Comments regarding the Notice of Preparation for the Bay Area to Central Valley EIR/EIS

Dear Members of the Authority:

Thank you for the opportunity to review and comment on the scope EIR/EIS for the Bay Area to Central Valley portion of the High-Speed Train (HST) system.

The City of Menlo Park continues to express its strong desire to explore routes and/or methods to avoid significant adverse impacts to the Peninsula area from the alignment for HST. Other options should be pursued, such as integration with existing systems. This is one of the key issues for Menlo Park in conjunction with the comments the City had on the program level EIR/EIS recently completed for the HST. The level of detail in the EIR/EIS did not provide enough information to address these comments and/or options and the response to the comments stated that they would be addressed with subsequent environmental documents. This next level EIR/EIS, which is specific to the Bay Area, is the perfect opportunity to address these issues. The City's comments and concerns are reiterated in the paragraphs below.

The Program EIR/EIS provided little information regarding grade separation within Menlo Park. The maps within the EIR/EIS had a single colored line passing through Menlo Park with a legend stating "Slight Elevated or Slightly Depressed." This needs to be expanded and evaluated extensively in this EIR/EIS. Furthermore, grade separation and expanding the line to four tracks would necessitate the relocation of a historic structure within the Menlo Park rail station complex. The document needs to clearly evaluate this issue including the need for right-of-way and construction easements within the Caltrain alignment.

The construction of two HST tracks within the Caltrain corridor will also preclude or at the least limit the ability for Caltrain to expand it services along the Peninsula. Caltrain currently has only two tracks in many areas along the Peninsula and the potential construction of two additional Caltrain tracks would increase the level of services of the system and provide more options. The impact on the Caltrain system and the impact on the residents of Menlo Park need to be addressed as part of the HST Caltrain alignment alternative.

The EIR/EIS document needs to include information on the impacts and mitigation measures in relation to noise resulting from High-Speed rail operation in the areas of Menlo Park near the rail corridor. Given the proposed frequency of service of the HST, the City is concerned that increased noise levels could reduce the quality of life and adversely affect real estate values in these areas.

Other issues of concern to the City of Menlo Park are loss of trees, impact to view corridors, economic impacts to nearby property owners and local traffic circulation. These issues are some of the issues within the area and the impacts need to be clearly understood and mitigation needs to be proposed.

The scoping letter states that the technology used for the HST will be steel wheel on steel rail with electrification. The appearance of overhead electric power for the trains including the wire, supporting poles, mast arms, etc is a matter of significant concern for Menlo Park. The City of Menlo Park previously commented on the draft EIR/EIS regarding this issue and would expect the electrification impact to be analyzed in the latest EIR/EIS. The City would also refer the HST to the previous comments on the draft EIR/EIS for Caltrain Electrification for further information. (see attachment 1)

Menlo Park is also compelled to continue to comment that, while economic issues are not normally addressed in the EIR, funding the High-Speed Rail Project with general obligation bonds to be paid from the State General Fund seems inappropriate and irresponsible at a time when the general fund is in a deficit condition. At a minimum, Menlo Park urges that any bond obligations on the State General Fund be deferred for several years; and, preferably, that the project be funded through revenue bonds or with a new direct taxation funding source, not through draw-downs on existing state and local funds.

Finally, the City of Menlo Park appreciates the opportunity to provide input on the scope of the High-Speed Rail Project EIR/EIS. The City will be interested in participating in the EIR/EIS process to review any impacts and proposed mitigation measures within Menlo Park. The City of Menlo Park cannot declare itself in support of the project until the issues described above have been carefully evaluated and worked out through the evaluation and design process.

Sincerely,

Chip Taylor
Transportation Manager

PRIVATE ORGANZIATIONS AND ASSOICATIONS

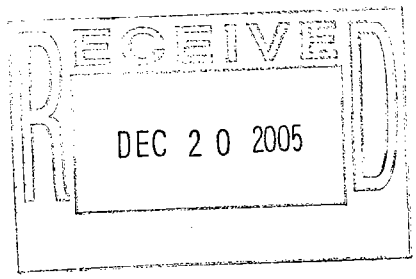
SCOPING COMMENTS

The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

California Regional Office
201 Mission Street, Fourth Floor
San Francisco, CA 94105

tel [415] 777-0487
fax [415] 777-0244
nature.org
nature.org/california

December 16, 2005



Dan Leavitt
Deputy Director
California High Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Re: Comments on the scope and content of the Program EIR/EIS for a Bay Area to Central Valley High-Speed Train

Dear Mr. Leavitt,

These comments on the scope and content of the Program EIR/EIS for a Bay Area to Central Valley High-Speed Train are submitted by The Nature Conservancy (Conservancy), a global conservation organization with approximately one million members. Since 1951, TNC has protected, with partners, over 117 million acres around the world. Our mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

In pursuing this mission, the Conservancy relies on a science-based approach both to identifying key threats to important natural communities and to developing effective strategies for their conservation. Since its inception, the Conservancy's primary emphasis has been on on-the-ground projects that produce tangible results. In that context, we have a long track record of working with diverse partners to achieve innovative, cost-effective, ecologically sound outcomes in the context of ongoing economic activity.

The Conservancy would like to thank the California High Speed Rail Authority (Authority) and staff for their thorough response to our comments on the Draft EIR/EIS for the proposed California High-Speed Train (HST) system. The Conservancy was pleased to see many of our comments addressed in the Final EIR/EIS and we look forward to the opportunity to work with the California High Speed Rail Authority and staff on the refinement of a Program EIR/S for the Bay Area to Central Valley segment of the HST. The Conservancy believes that a broad and thorough review of the broad corridor between the Bay Area and Central Valley, as identified in the Final EIR/S, is essential for the Authority to meet legal obligations, as stated under the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., the CEQA Guidelines, California Code of Regulations, title 14, section 15000 et seq. (CEQA Guidelines), and the National Environmental Policy Act (NEPA), 42 U.S.C 4321; 40 C.F.R. 1500.1.

In their review of the Bay Area to Central Valley segment of the HST, the Conservancy urges the Authority and staff to thoroughly and equitably assess each alignment option, including the Altamont Pass (I-580) and the Pacheco Pass (SR-152). Further, the Conservancy encourages the Authority and staff to ensure the Program EIR/EIS includes the best available information on potential impacts to California's unique biological resources and associated mitigation strategies for each potential impact. Detailed comments follow.

I. Existing and Priority Biodiversity Conservation Areas in the Northern Mountain Crossing Corridor

Through our practice of *Conservation by Design*, The Nature Conservancy systematically identifies and prioritizes areas containing the most irreplaceable natural resources and representative ecosystem types within an *ecoregion.* An ecoregion is an area with similar climatic, physiographic and biological communities. These priority areas are called our *portfolio conservation areas* and represent the framework and context for our conservation action.

Each portfolio conservation area is selected for the habitat that it contains for *conservation targets*- species, communities or ecological systems. After identification of these areas, we define our project areas in an ecoregion by integrating conservation opportunities with biodiversity value and the status of threats to targets. Project areas, or large, functional landscapes, are the predominant scale of our conservation work and are the organizing geography for our investment in land and water conservation.

Construction and operation of a HST system would significantly and detrimentally impact natural resources throughout the state, particularly in areas of high ecosystem value, as well as areas where considerable public investments have been made to protect and manage key examples of our state's natural heritage. The Conservancy was pleased to see that Henry Coe State Park and the adjacent Orestimba Wilderness Area would not be directly impacted by any of the proposed HST alignment options for the Northern Mountain Crossing. However, a number of other priority conservation areas *are* bisected by the proposed alignment options. Two of these potentially affected areas are described below.

Profile Area: Diablo Mountain Range

The Conservancy's Mount Hamilton project area in Diablo Range of Central California is an intact landscape of oak woodlands, Central California sycamore alluvial woodlands, stream-fed canyons and pine-topped ridges. The project area comprises 1.2 million acres (1,875 square miles), and, to date, the Mount Hamilton Project has protected roughly 81,000 acres through acquisition or easement. These lands provide habitat protection for the San Joaquin kit fox (*Vulpes macrotis mutica*), which is federally listed as endangered and state listed as threatened, the federally threatened California red-legged frog (*Rana aurora draytonii*), and the proposed federally threatened California tiger salamander (*Ambystoma californiense)* that are known to reside in and migrate through the area. Protection of land along the eastern side of the Diablo Range was sought in part to protect the kit fox migration route that connects sub-populations in the north with the core Ciervo/Panoche population.

The construction and operation of a HST system through this area would irreparably damage these unique populations of native species and ecological functions by increasing habitat fragmentation, disrupting aquatic systems, and reducing habitat quality for many species due to noise, light and vibration. It is also likely that there would be increased pressure for a highway and associated infrastructure through the heart of the Diablo Range following completion of the HST system to provide increased access to San Jose from the relatively less expensive homes in the Central Valley.

Profile Area: Grasslands Ecological Area

The Grasslands Ecological Area (GEA) represents significant public investment in a priority conservation area in the proposed Bay Area to Central Valley HST scoping area. Encompassing approximately 180,000 acres, the GEA is the largest wetland complex in California and contains the largest block of contiguous wetlands remaining in the Central Valley.[1] The GEA is designated by the U.S. Fish & Wildlife Service as an area for priority purchase of public easements for wetland preservation and enhancement. The GEA

[1] Grasslands Water District, Land Use and Economics Study: Grasslands Ecological Area (July 2001).

includes federal wildlife refuges, a state park, state wildlife management areas and the largest block of privately managed wetlands in the state. The GEA also includes a large and growing portfolio of federal, state and private conservation easements. Through 1998, conservation easements had been acquired on over 64,000 acres at a total cost of over $28 million.

The GEA is of considerable importance because it preserves a variety of habitats important to the maintenance of biodiversity on a local, regional, national and international scale. It has been estimated that 30 percent of the Central Valley migratory population of waterfowl use this area for winter foraging.[2] The GEA is a major wintering ground for migratory waterfowl and shorebirds of the Pacific Flyway and the Western Hemisphere Shorebird Reserve Network has designated the GEA as one of only 22 international shorebird reserves in the world.[3] Over a million waterfowl are regularly found in the GEA during the winter months. The GEA also provides habitat for more than 550 species of plants and animals, including 47 plant and animal species that are endangered, threatened or candidate species under state or federal law.

A Pacheco Pass Alignment, as identified in the statewide HST Program EIR/S, bisects the Grasslands Ecological Area (GEA) as it passes north of Los Banos. Similar to the potential impacts on the Diablo Mountain Range, outlined above, a HST alignment bisecting the GEA would have tremendous negative consequences for the area's rich biological diversity.

II. Analysis of Potential Impacts to Natural Resources in the Northern Mountain Crossing Corridor

The Nature Conservancy appreciates that a program-level EIR/S is just the first investigative tier in a large project such as the statewide HST project, and we understand that alignment decisions must be made on a considerable number of unknowns and unpredictable factors. However, under both CEQA and NEPA, an EIR/S must provide a comprehensive description of all of the related aspects of a project. A project description for an EIR must contain a "general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities."[4] Therefore, the Conservancy expects that as the Authority and staff prepare a Program EIR/S for the Northern Mountain Crossing, they will use appropriate, accurate and current data; choose the right type of analysis for each resource in question; and consider the full range of direct, indirect and cumulative effects of each proposed alignment option.

A. Use of best available data

The Conservancy believes that in order to adequately determine the impact of each of the proposed alignments, the Program EIR/S is required under CEQA and NEPA to use the most current and appropriate data available. The reliance on data sets such as the California Natural Diversity Database (CNDDB) to determine the true extent of direct and cumulative impacts is insufficient for many wildlife and plant species. This is especially true in areas that are typically undersampled in the database due to remoteness or lack of publicly accessible land. The CNDDB, and any database of observational data, is going to be seriously limited for analyzing impacts on less widely distributed species, as it documents only occupied habitat, not potential habitat. In addition, CNDDB only maps occupied habitat where somebody has surveyed and sent the survey results into the program. This is likely a small percentage of the full distribution of many species. For many listed species, there are other key sources of data that were only partially used in the DEIR/S including Natural Community Conservation Plan (NCCP), Habitat Conservation Plan (HCP), Multiple Species Conservation Plan (MSHCP) reserve designations,

[2] U.S. Bureau of Reclamation, Final NEPA EA, Refuge Water Supply Long-Term Water Supply Agreements (January 2002)
[3] Fredrickson, Leigh H. and Laubhan, Murray K, Land Use Impacts and Habitat Preservation in the Grasslands of Western Merced County, CA (February 1995)
[4] CEQA Guidelines Section 15124(c)

designated critical habitat, recovery plans, and habitat suitability models like the GAP analysis project predicted distribution layers generated from the California Wildlife Habitat Relationship (WHR) models.

Use of suitable wildlife habitat models (e.g. WHR) and data created to represent other high quality habitat (e.g. via critical habitat designation or NCCPs) to analyze the effect of the proposed action on sensitive wildlife habitat and movement linkages would facilitate more meaningful interpretation of direct and cumulative impacts. For example, the Program EIR/S must quantify the percent of suitable habitat that is lost, fragmented and degraded as a result of the construction and maintenance across the full distributional range of the species, factoring in the other threats to species viability. This is the minimum necessary to characterize the cumulative impact on rare or sensitive wildlife. The Program EIR/S also needs to consider not just the amount of lost habitat within the narrow study area, but the change in spatial configuration of habitat and the loss of effective habitat as a result of factors such as noise, light and associated maintenance infrastructure. Without such an analysis, decision makers cannot make a determination of which alternatives are the least environmentally damaging.

B. Consistent technical evaluations of each alignment alternative

The Conservancy believes that CEQA and NEPA mandate that information for each alternative be analyzed consistently at the same level of detail with information presented in a consistent format. In order for decision-makers to understand the full range of impacts and make an educated decision on the preferred Northern Mountain Crossing Alignment, each alignment alternative, as well as each environmental impact, must be presented in a consistent and comprehensive manner. A consistent set of data and a template for the formatting and presentation of information on impacts should be standardized in the Program EIR/S. Furthermore, it is critical that the same map data and scale be used on a consistent set of maps for each alignment alternative.

C. Resource impacts to be analyzed in the Program EIR/S

Wildlife Habitat Fragmentation

One of the most significant long-term ecological impacts of the HST project will be the fragmentation of wildlife habitat and isolation of species. Over time, the negative effect on population viability from fragmentation of habitat could be extreme for some wide-ranging or migratory species, such as pronghorn, mountain lion, and San Joaquin kit fox. The isolating effect will be greatest in areas where the rail corridor bisects large, relatively intact landscapes, like the Diablo Range in the Bay Area. Given how little intact low-elevation habitat remains in California for wide-ranging species, it is scientifically unjustifiable to consider further fragmentation when other alternatives exist for alignments in and around existing developed areas.

At a finer scale, the issue of fencing is an extremely important aspect of HST design, as it may block access to critical habitats necessary during a portion of a species life cycle (e.g. wetlands for amphibians). Further habitat connectivity modeling and field studies including: analysis of suitable habitat that would be fragmented by the rail corridor, population locations and recovery plan demographic data, are necessary before the impact of a fenced rail corridor can be adequately assessed. Additionally, the following data must be included in the Program EIR/S if one is to understand the full range of habitat fragmentation impacts: how much of the route will be fenced, which species will likely be affected, whether pilings and support beams will also be fenced.

Ecosystem Functioning

Processes such as nutrient flow, natural disturbance, pollination, predation, genetic interchange, surface and groundwater flow all interact to sustain communities of species over time. While little spatial data exists to characterize the dynamics of these processes, published studies and experts should be used to assess the impact of a significant fragmenting feature such as a rail corridor. The spatial scale at which ecological processes operate is widely variable and any interpretation of the impact of HST on biological

resources needs to factor in the effective "area of influence" for the resources in question. For example, a wetland can be filled and impacted directly by HST if it overlaps with the rail line, but a wetland can also be affected miles away from the rail line if upstream changes in surface and groundwater flow result from HST construction and operation.

Key ecosystem issues that need to be analyzed in a Program EIR/S for the Northern Mountain Crossing include:

1. How the presence of the HST system will affect the movement and management of fire in fire-adapted ecosystems and on public land
2. How the relationship between wetlands and groundwater would be affected by HST
3. What vegetation communities will be affected by changes in microclimate, soil moisture, and seed and nutrient sources resulting from altered hydrologic and wind regimes, soil compaction and loss of canopy vegetation in forests and riparian areas in the HST right-of-way
4. What chemicals will be used during construction, operation and maintenance of the HST and how these may affect biological resources through soil and water pollution
5. How the rail corridor affects riparian vegetation and associated fauna near streams and rivers
6. How HST construction, operation and maintenance will affect sediment deposition and water temperature, and how those changes will affect salmon and steelhead populations

Invasive species

One of the primary global threats to biodiversity is the spread of non-native, invasive species into ecosystems. Given the seriousness of this threat, a discussion of the potential spread of invasive species by HST construction and operation is essential, particularly in remote areas without any major human infrastructure (e.g. Diablo Range). Extensive research in road right-of-ways shows that opportunistic invasive species often out-compete native plants, following soil and canopy disturbance. These disturbances increase rates of establishment due to changes in light and moisture availability. Railroads, like roads, are an extremely efficient distribution mechanism for invasive species, and seeds may be transported on construction and maintenance equipment, and possibly trains themselves. Even at the Program-level, an EIR/S must consider the current distribution of invasive species along each proposed alignment, and the ecological effect the spread of these species in terrestrial and aquatic ecosystems would have on native biodiversity.

Noise, vibration and light effects on wildlife

In numerous studies along roads, birds and mammals show reduced breeding success, changes in movement patterns and altered behavior along roadways. The primary factors related to noise impacts are the amount of traffic and the presence of mitigating factors such as barrier walls. Assuming that a HST will produce noise that may affect wildlife in the same way that cars on highways affect wildlife, the Program EIR/S must predict and compare the increase in noise produced by each proposed HST corridor. Additionally, increases in light at night and vibration reduce habitat quality for many species including waterfowl, amphibians, and nocturnal mammals. Therefore, these issues must be analyzed in a format similar to the comparison of noise effects at each alignment option.

D. Construction activities to be analyzed in the Program EIR/S

While the Conservancy recognizes that many construction activities and techniques will be site-specific in nature, it is our feeling that at the Northern Mountain Crossing alignment-level, the Program EIR/S must thoroughly analyze the likely construction techniques to be used on each alignment alternative, as well each technique's respective impact on the surrounding natural resources.

Construction Activities for Tunneling

It is likely that construction-related environmental impacts could be as, or more, significant than operational impacts from a HST especially for areas that would require new track. The Program EIR/S

must provide details on the timing, duration, and engineering for each Northern Mountain alignment alternative. Specific issues related to tunneling that we would like to see addressed in the EIR/S include:

1. Water use for tunneling and impacts on water quality and groundwater flow
   The Statewide Final EIR/S states: "Shallow groundwater at potential tunneling sites in the mountain regions (Diablo Range and Pacheco Pass) could be affected by dewatering that in turn could affect groundwater levels," (DEIR/S at 3.14-12) and also:

   > As with the Modal Alternative, potential direct impacts on groundwater resources from the HST alternative would be limited to infrequent shallow groundwater occurrence where dewatering may be necessary during construction of at- and above-grade structures (e.g., support columns) and for tunneling portals." (DEIR/S at 3.14-14)

   Therefore, it is essential that information be provided as to the amount of water to be used for tunneling, where it would be diverted from, and how its disposal would impact aquatic biological resources.

2. Tunnel effects on groundwater flow
   Tunneling effects on groundwater flow must be addressed as it will indirectly and cumulatively impact wetlands, vernal pools, surface water, and other aquatic ecosystems including threatened, endangered, and sensitive species.

3. Disposal of removed material and its impact on biological resources
   The amount of dirt and rock that would need to be removed during the tunneling process is massive, and therefore must be described in terms of how much material would be disposed of and how this will affect terrestrial and aquatic biological resources.

4. Location and frequency of surface boring holes
   Presumably, there will be some pre-excavation investigation of subsurface geologic conditions using boring machines from the surface. The Program EIR/S must include information about how these operate, what ground-level disturbance is required, and how the machines will get into and move around the remote and extremely rugged backcountry of the Diablo Range. Furthermore, detailed information must be presented on what alternative construction techniques might be used in areas where the preferred technique is not plausible, and how these additional techniques might affect biological resources.

Construction Activities for Aerial Structures
Like tunneling, use of aerial structures will likely be cited in the EIR/S as a way to avoid biological impacts, particularly to aquatic systems. Each such citation must be accompanied by a description or analysis of the impacts stemming from the construction and use of these structures, as well as mitigation strategies that will be implemented to relieve impacts on natural resources. Furthermore, normalized criteria should be incorporated to determine which surface water bodies would be spanned with aerial structures and which would be filled, diverted or run through culverts.

Construction Activities to Upgrade Existing Rail for HST
Impacts along parts of the HST system that use existing rail lines may have minimal impacts because a broader footprint is not required for HST operation. However, there must be some description of how existing rail lines will be upgraded to meet HST requirements. These details likely figure into the overall cumulative impact on biological resources and cannot be omitted from a Program EIR/S.

Infrastructure Maintenance Activities

Infrastructure maintenance activities will undoubtedly be part of HST system function and the impact of these regular activities must be included in a Program EIR/S. Activities and impacts that must be analyzed include, but are not limited to: access roads that will be built and maintained for HST system access, the level of vegetation management that would be necessary to keep rights-of-way clear in natural areas, and the herbicides that would be used to manage vegetation.

E. Analysis of cumulative impacts and growth inducement

The Conservancy believes that both NEPA and CEQA mandate that cumulative impacts be assessed within a Program EIR/S, despite the magnitude of such a project. An analysis of cumulative impacts must quantify all direct, indirect, and cumulative impacts to natural resources, factoring in the full range of other threats posed to species and community viability by other transportation projects across the range of the species at the scale of the whole HST system. Furthermore, the Program EIR/S should include a description of which specific biological resources are most at risk and what mitigation strategies will be used to avoid cumulative impacts to those resources identified.

The potential indirect and cumulative effects from growth inducement resulting from HST construction must also be analyzed in a Program EIR/S for the Northern Mountain Crossing. The increased commuting mobility that HST will enable will likely catalyze significant growth and expansion of the developed footprint for many cities and towns, particularly in the Central Valley. The Conservancy is pleased that a station location in Los Banos will no longer be considered for the HST system, however, a HST corridor through the Diablo Range may lead to increased pressure for a highway and associated infrastructure to provide increased access to San Jose from the relatively less expensive homes in the Central Valley. The Program EIR/S must analyze the potential impact projected growth in this area, as well as others, will have on listed species habitat, wildlife movement and water resources.

III. Discussion of Mitigation Alternatives

For each Northern Mountain Crossing alignment option, feasible mitigation measures must be identified and a detailed analysis of these mitigation measures provided. It is not appropriate to make an alignment choice based on the possibility that significant impacts to biological resources may potentially be avoided by as yet undetermined design features and mitigation. Mitigation options, such as overpasses and tunneling, may prove to be infeasible in areas not thoroughly surveyed.[5]

In addition, the cost of proposed mitigation options should be factored into the overall comparison and ultimate selection of a preferred alignment, especially considering the fact that all of the proposed routes traverse areas with high resource and land values. While it may be impossible at this stage to quantify the full cost of mitigation along all proposed alignment alternatives, specifics on the cost, feasibility and likelihood of success are needed, especially for wetland mitigation and construction of wildlife underpasses and overpasses.

Finally, the Project EIR/S should also analyze the "net benefit" mitigation options that could opportunistically coincide with the construction of a HST system. In a project this massive in scope, there will undoubtedly be opportunities to improve wildlife habitat connectivity at existing chokepoints, and improve aquatic habitat connectivity for migratory fish and restore a functional tidal influence for coastal lagoons and wetlands. These actions should be considered mitigation options that construction of HST would enable and should be identified early in the review process.

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[5] In a paper entitled, *Use of non-wildlife passages across a high speed railway by terrestrial vertebrates,* researchers in Spain found that many factors influenced the use of culverts and passageways including proximity to habitat, human disturbance and dimensions of the passages. They found that ungulates were not using the passages even though they are found throughout the area and that the railway was a movement barrier for these animals. In Rodriguez et al. (1996) *Use of non-wildlife passages across a high speed railway by terrestrial vertebrates.* Journal of Applied Ecology 33, 1527-1540.

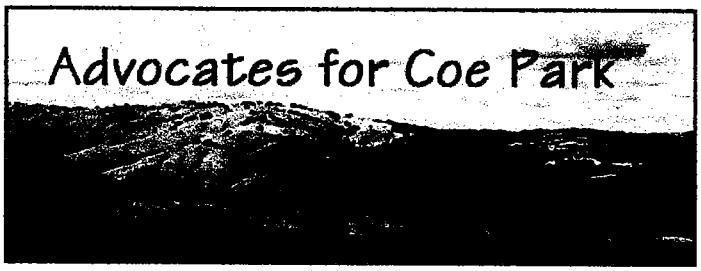
IV. Conclusion

The Nature Conservancy appreciates the opportunity to provide comments on the scope and content of a Project EIR/EIS for the Northern Mountain Crossing alignment of the proposed statewide HST project. We recognize the considerable challenge of meeting the transportation needs of a growing California, while maintaining the natural values that make California exceptional. The Conservancy believes that we need to find creative solutions to these needs, and that the growth of our ecological infrastructure needs to run parallel to our expanding human infrastructure. Given the massive scope of this project and the significant commitment of financial resources to investigate the proposed plans, the public and decision-makers must be presented with a thorough and consistent analysis of the environmental impact of the project at each planning level. The Conservancy looks forward to the opportunity to work with the Authority and staff to ensure the Project EIR/S for the Northern Mountain Crossing takes into account both natural and economic resources that are essential to the vitality of California.

Thank you for considering our comments.

Respectfully,

Mark Burget
Executive Director
California Program



Advocates for Coe Park
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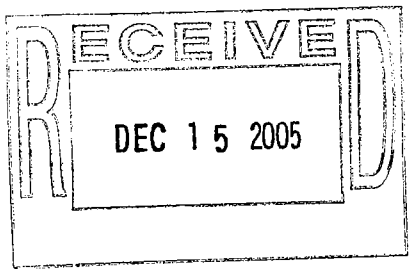
Morgan Hill, CA 95038
(408) 887-3190
www.coeadvocates.org

December 13, 2005

Mehdi Morshed, Executive Director
California High Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

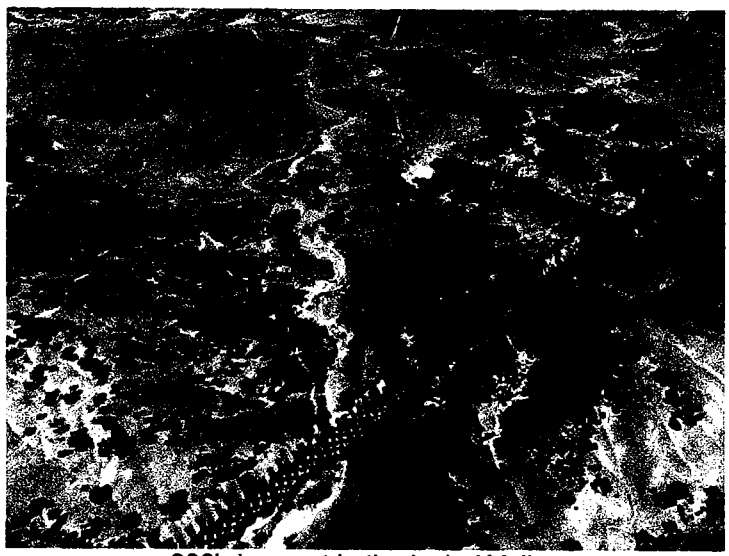


Re: Northern Crossing Study Area Scoping Process

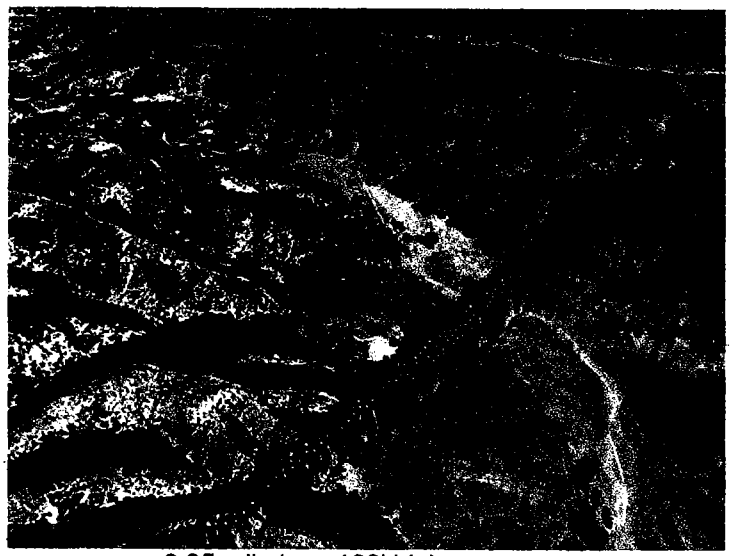
Dear Mr. Morshed:

The Advocates for Coe Park are encouraged that all High-Speed Rail routes through Henry W. Coe State Park were eliminated in the Final Program EIR/EIS. However, we remain very concerned that a route through the Isabel & San Antonio Valleys, just north of Coe Park, is still under serious consideration.

These high mountain valleys, in the center of the Mt. Hamilton Range, are an essential part of the eco-system of the region and would be destroyed by the construction of the "Northern Tunnel" alignment. Cuts up to 200 feet deep & earth fill causeways as high as 160 feet would be part of the permanent and ugly barrier across the heart of the range. Important wildlife corridors would be severed, and the remote landscape would be permanently scarred.

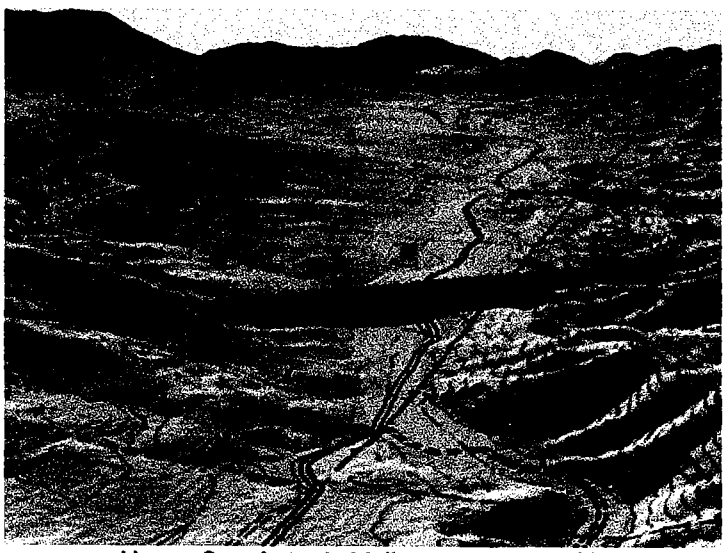


200' deep cut in the Isabel Valley



0.25 mile long 160' high causeway
crossing the Upper San Antonio Valley

The 0.25 mile long, 160' high causeway across the Upper San Antonio Valley will pass within 2 miles of the northern boundary, and one of the most remote portions of Henry W. Coe State Park.



Upper San Antonio Valley causeway with
H.W. Coe S.P. in background (green)

I have enclosed a DVD that contains visualizations of the destructive impact that the "Northern Tunnel" alignment would have on this remote & sensitive region.

The Advocates for Coe Park strongly urges that the High-Speed Rail Authority reject from consideration any Northern Crossing that does not follow an existing transportation corridor across the Mt. Hamilton Range. We also

recommend the Pacheco Pass alignment as the least environmentally damaging alternative that will also assure the long-term economic success of the High-Speed Rail System.

Regards

Robert D. Patrie
Director

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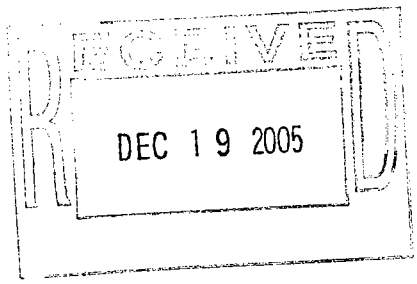
December 14, 2005



Dan Leavitt, Deputy Director
California High Speed Rail Authority
Draft Program EIR/EIS Comments
925 L Street, Suite 1425
Sacramento, CA 95814

Re: Scoping Comments in Response to the Notice of Preparation for the Proposed California High Speed Rail Project, Bay Area to Central Valley Corridor, Environmental Impact Report/ Environmental Impact Statement (EIR/S)

Dear Deputy Director Leavitt:

On behalf of Defenders of Wildlife and our more than 100,000 members and supporters in California, I am writing to provide scoping comments in Response to the Notice of Preparation for the Proposed California High Speed Rail Project, Bay Area to Central Valley Corridor, Environmental Impact Report/ Environmental Impact Statement (EIR/EIS) for the Proposed California High Speed Rail Project ("Project"). While we support the concept of providing high speed rail transportation to California's growing population, we are nonetheless concerned that this project's environmental documents may not be in compliance with the California Environmental Quality Act ("CEQA") and National Environmental Policy Act ("NEPA").

I. The EIR/EIS Analysis of Biological Impacts

The EIR/EIS documents for the proposed Bay Area to Central Valley Corridor must discuss the relative quality and importance of the habitat to be destroyed in relation to the overall survival of applicable species. Failing to do so will render the EIR/EIS inadequate for informing alignment decisions because alignment choices will sharply affect most, if not all, of the biological impacts listed below.

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A. Data/Information:

The EIR/EIS identification and analysis of wildlife habitat cannot be limited to the habitat occurrence data in the California Natural Diversity Database. These occurrences are not comprehensive and only cover areas that have been surveyed. Large amounts of unsurveyed land (often private lands) may have higher densities of species, but since no surveys have been conducted, the quality of this habitat is unknown. However, the EIR/EIS would score this as low to zero habitat value. It is unacceptable to make decisions regarding the relative impact of the various route alternatives (and indeed impossible to identify the least environmentally damaging alternative) without on-the-ground data that reflect the real biological condition.

Similarly, the EIR/EIS identification and analysis of wetlands cannot be limited to the National Wetlands Inventory. The Inventory database provides only a very coarse and incomplete analysis of wetlands in California. The database is compiled by aerial photographs of landscapes in which many smaller wetlands are not readily distinguishable. In addition, many areas in California have not been photographed. In order to ascertain a more complete picture of wetlands impacts, the environmental documents need to conduct a more thorough review of potential wetlands impacts, including on-the-ground surveying efforts.

B. Analysis of General Impacts to Biological Resources:

Roads are one of the top causes of species imperilment in California (National Wildlife Federation 2001) and the impacts of railroads as linear transportation features are assumed to be similar. Specific ecological effects of roads have been thoroughly documented (Forman and Alexander 1998, Trombulak and Frissell 2000, Natural Resource Defense Council 1999). The key impacts are mortality from project construction, road kill, habitat fragmentation, alteration of movement and behavior, spread of exotic species, spread of human activity, reduction of environmental quality, and facilitation of urban sprawl. All of these are major impacts to wildlife that must be discussed in the EIS/EIR.

1. The EIR/EIS must consider the environmental advantages of Rail Corridors over Highways

The EIS/R must explicitly list and discuss the following advantages of railway corridors over highways (from DeSanto and Smith 1993):

1. Water drains away from the railbed, maintaining a dry environment that prevents unwanted vegetation from establishing.
2. The bed and banks have a porous, stable ballast that prevents runoff from concentrating, keeps slope erosion to a minimum, and filters out particulates and chemical pollutants.
3. A service road or other narrow strip running alongside the rail prevents ballast spoils from shifting beyond the toe of the roadway slope.
4. Drainage ditches parallel to the rail prevent uncontrolled erosion, act as sediment traps, filter railway runoff, and insulate adjoining land from uncontrolled channel flow.
5. High Speed Rail (HSR) construction usually leaves a significantly smaller footprint than road construction, so it has smaller short-term impacts.

6. HSR corridors are narrower than roads, so animals are more willing to cross under them. This is a significant advantage.
7. It is more feasible to elevate an HSR system on pile-supported structures than to elevate a road. "Elevated corridors on bridges or viaducts undoubtedly have the least disruptive impact on wildlife movement and migration passageways."

The EIR/EIS must include a sufficiently detailed discussion of these issues.

2. The EIR/EIS must analyze the impacts of habitat fragmentation

Expanding networks of roads force wildlife to live on ever-shrinking islands of habitat, where it is more difficult for them to find food, water, shelter, mates, and protection from predators. Genetic problems such as inbreeding appear, and populations become more susceptible to catastrophic events such as wildfire. The resulting fragmented habitat inevitably leads to smaller populations of wildlife, and extinction of populations or species becomes more likely.

Fragmentation also increases the ratio of edge habitat to interior habitat, which is harmful to those species that need interior habitat. The concept has been best documented in forest-dwelling birds. The inside of a habitat has a different climate and supports different and usually more sensitive species than do the edges. In forested areas, edges associated with roads are a source of nest predators and brood parasites. Aggressive species such as brown-headed cowbirds and blue jays thrive in edge habitats (e.g. Baker and Lacki 1997). Snakes, raccoons, and other predators hunt along the edge. Species that occur only within the interior of forests, such as the ovenbird, scarlet tanager, hooded warbler and a number of other migratory songbirds, can't withstand the predation or can't compete against the more aggressive edge species, and they die out, reducing the biodiversity of an area (Porneluzi and Faaborg 1999, Rosenberg et al. 1999, Robinson et al. 1995). DeSanto and Smith (1993) discuss the habitat fragmentation consequences specific to HSR systems. They conclude that the long-term impacts of habitat fragmentation are directly related to the area and type of habitats replaced and discuss. A European Commission Report (COST 2000) discusses the habitat fragmentation effect of railways.

The Missing Linkages report and associated GIS overlays identify major areas of movement throughout the state. However, identifying areas where these linkages will be cut off by the HSR route does not adequately address the significant habitat fragmentation impacts that the alignment will have. Every mile of this rail corridor has the potential to fragment habitat of species and have impacts on ecological functioning. The EIR/EIS must be present the significant fragmentation impacts of the various alignments to wildlife species of concern, not only species that are currently threatened and endangered.

The EIR/EIS should place special emphasis to wide-ranging species such as mountain lions, coyotes, bobcats, and bears. By virtue of their need to access large areas of habitat, these species would be significantly impacted even if they are not currently identified as "sensitive." Much work has been done looking at the movement needs and impacts of roads on these species (e.g. black bears – Brody and Pelton, 1989, mule deer and elk – Rost and Bailey 1979) and even their needs in terms of wildlife crossing to avoid and mitigate impacts from transportation infrastructure (e.g. Evink 1990, Leeson 1996). Specifically for mountain lions, a 9 to 12 foot

fence, with a 12-48 inch foot overhang with barbed/predator or electric wire at the top to stymie a cat from climbing over are recommended. Florida uses a 10 foot fence with 3 barbed wires for an overhang to keep lions off highways and channel them into culvert underpasses. A noted above the HSR proposes to use security fencing that is only 8.2 ft high. Insufficient height and design could potentially lead to mountain lions on the track, obviously a threat to wildlife survival and human safety.

Habitat fragmentation can present significant problems for the normal functioning of ecological processes. For example, pollination is a major ecological process that will be impacted by the proposed HSR project. Bhattacharya et. Al (2003) found that while bumblebees have the ability to cross a road and a railroad, these structures may restrict bumblebee movement and act to fragment plant populations because of their site fidelity when foraging. The bumblebees they studies rarely crossed railroads even when suitable habitat was only 30-40 m away on the other side. This signifies that High Speed Rail may have significant and unquantifiable impacts on plant species which depend on these pollinators for their reproduction, genetic flow and ultimate survival. Additionally, the rail will fragment bumblebee (and presumably that of other insect) habitat, with the associated lower survival and reproduction. The ability of an ecosystem to survive a natural disaster (such as fire, earthquake, windstorm, disease outbreak) is decreased as habitat is fragmented. Fragmentation also limits the ability of species and ecological communities to respond and adapt to global climate change. The EIR/EIS must address the impacts on all such ecological processes.

3. The EIR/EIS must analyze impacts from the invasion of non-native species alongside rail alignments.

Roads spread exotic species of plants and animals, which then compete with native species. Exotic plants tend to favor disturbed habitats, so they thrive along the side of new roads. They also tend to grow and use resources very fast, depriving native vegetation of important resources. In the past, exotic species sometimes have been introduced to roadsides to control erosion, with severe ecological consequences. Along a California pipeline, exotic species invaded adjacent grassland, coastal sage, and oak woodland habitats (Zink et al. 1995). In the Mojave desert, the plant *Brassica tournefortii* has spread along roads and since 1995 has been encroaching beyond roadsides into pristine habitat. Similarly, *Hirschfeldia incana* [*Brassica geniculata*], *Descurania sophia*, *Sisymbrium irio*, *Sisymbrium altissimum*, and *Salsola* spp. are also found locally along roadsides in the Mojave (Brooks and DeFalco 1999). The ecological changes associated with these exotic plants directly degrade habitat for the threatened desert tortoise. Gelbard and Harrision (2003) found significantly more invasive species at distances closer to roads in Central Valley grassland communities. A review of literature regarding the impacts of railroads on wildlife (van der Grift 2001) indicates that trains introduce exotic plant species through the spread of seeds. The EIR/EIS must discuss the potential impacts to native species posed by the resultant spread of invasive species and present appropriate mitigation.

4. The EIR/EIS must analyze impacts to wildlife from noise, vibration, lighting, and electromagnetic fields (EMF) and electromagnetic interference (EMI)

The construction and operation impacts of the proposed HSR will have major impacts on wildlife. The ecological impacts due to noise, vibration, lighting, electromagnetic fields (EMF) and electromagnetic interference (EMI) must be analyzed in the EIR/EIS.

Noise, vibration and lighting all lead to avoidance by wildlife species and contribute to habitat fragmentation (DeSanto and Smith 1993). Many animals use sound to communicate, navigate, avoid dangers, and find food (Bowles 1997). Thus, Bowles finds that negative impacts of noise are reduced health, altered reproduction, survivorship, habitat use, distribution, abundance, or genetic composition, and harassment. For example, recordings of dune buggy sounds played intermittently for less than ten minutes at a lower intensity than normal caused hearing loss in sand lizards and kangaroo rates, rendering them unable to respond to recorded predator sounds (Andrews 1990). The impacts of sound vary by pitch, duration, loudness, and species. In general, mammals hear from below 10 hertz (Hz) to over 150,000 (Hz) (Bowles 1997, Fay 1988), birds from 100 Hz to about 10,000 Hz (Fay 1988, Kreithen and Quine 1979), reptiles between about 50 and 2000 Hz (although snakes and turtles hear quite poorly – Forman et al. 2003), and amphibians between 100 and 2000 Hz (Forman et al. 2003).

Vibrations from low-frequency noise are readily detectible by some animals, especially birds and reptiles (Bowles 1997, Shen 1983). Detection of vibration is particularly important in the detection of predators, probably especially for reptiles because of their poor hearing. The impacts of noise and vibration will depend on the frequency of train passage, the type of construction, the surrounding habitat (e.g. noise will travel further in an open field than in a forest) and the speed of the train itself. Forman et al. (2003) report that noise impacts from a Dutch highway with 50,0000 vehicles per day and a traffic speed of 120 km per hour reach beyond 800 m (approximately a half mile).

Mountain lions are known to avoid crossing areas that are lit at night (Beier 1995). This behavior is expected to be true of other nocturnal species.

Defenders of Wildlife was able to ascertain through communication with an engineer from the Train Riders Association of California (D. MacNamara, personal communication) that the overhead cables will be continuously electrified. A state of the art European Commission Report (COST 2000) indicates that railways cause bird mortalities through collision with trains, overhead cables, and electrocution. Winter season has the highest number of casualties with one summer study on the North TGV line reporting 3.4 dead birds per kilometer per month. This would lead to over 3800 dead birds in the summer months on the proposed HSR 700 mile length, with yearly estimates expected to be over 7500 as more birds were killed in the winter. Birds of prey were the most vulnerable. Overhead cables are dangerous mostly for low-flying birds and birds of prey that hunt by skimming the ground. This impact can be reduced when: 1) cables form dense, continuous networks (especially near stations and railway junctions); 2) There is vegetation along the track at least as high as the cables; and 3) when the cables are in trench tracks which are avoided by birds. In the COST study, electrocution accounted for a small percentage of the birds killed on railways. It is suggested that in order to reduce this threat, the catenary suspension wire should be insulated, a platform should be installed over the support, or the insulator should be oversized to discourage perching. We have summarized suggestions for

fencing and wildlife crossings that would reduce the mortality from collisions in our comments regarding mitigation.

Finally, the EIR/EIS must discuss the potential impacts of Electromagnetic Fields (EMF) or Electromagnetic Interference (EMI) on wildlife. Possible impacts could include changes in orientation, for both short and long-distance movements, avoidance of habitat, and disturbance of daily activities, all of which are likely to be significant. These impacts must be analyzed.

5. The EIR/EIS must analyze impacts to proposed and final federally designated critical habitat

The federal Endangered Species Act prohibits the destruction or modification of listed species' critical habitat. See 16 U.S.C. § 1536(a)(2). Section 7 of the ESA requires that federal agencies consult with the US Fish and Wildlife Service to determine if a project will "adversely modify" critical habitat. Id. Recent court rulings clearly emphasize that critical habitat is designated to provide for the survival and recovery of a species. (Center for Biological Diversity vs. Bureau of Land Management, Northern California District Court 2004; Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service, 9th Circuit 2004) Modification that decreases the likelihood of survival or the likelihood of recovery is unlawful. There are numerous species with designated and proposed critical habitat within the impact area of the HSR project. The EIR/EIS should consider impact in even those areas in which critical habitat is only proposed as potentially significant impacts because by the time the environmental documents for this project are finalized, most of the proposed designations will have become final.

Critical habitat is comprised of land officially designated by the USFWS to contain the primary constituent elements for a listed species. This habitat cannot be "adversely modified" in any way that would impact the survival or recovery potential of the species. Clearly running a HSR track and fencing the entirety of the alignment within critical habitat would constitute adverse modification.

6. The EIR/EIS must demonstrate and assess its consistency with federal threatened and endangered recovery plan goals

The federal ESA requires the development of a recovery plan for species that are listed as threatened or endangered. The purpose of the ESA is to provide for the ultimate recovery of at-risk species, thus the goal of every recovery plan is to reach a level of conservation to ensure survival of the species and thus allow it to be removed from the ESA list. Recovery plan are often state of the science documents that have been developed by the experts of the relevant species. These plans are excellent road maps, including the identification of core recovery units that provide the necessary context within which to analyze the impacts of particular projects on a listed species. As such, these plans should be consulted and the EIR/EIS must analyze consistency of the proposed project with these plans and the ultimate choice of alignment must not conflict with these plans. Currently there are recovery plans in place for the San Joaquin kit fox, desert tortoise, Bay checkerspot butterfly, delta smelt, California red-legged frog, blunt-nosed leopard lizard, California condor, marbled murrelet, giant kangaroo rat, Fresno kangaroo rat, short-nosed kangaroo rat, Tipton kangaroo rat, San Joaquin Valley riparian woodrat, arroyo

toad, Pacific pocket mouse, Riverside fairy shrimp, and San Diego fairy shrimp. Recovery plans are being developed for 15 vernal pool species, the giant garter snake, Alameda whipsnake, and western snowy plover and these should be incorporated into the EIR/EIS analysis if they have become available by the time of the next draft. To the extent possible, input should be solicited from the US Fish and Wildlife Service to receive any draft recovery goals or input for these species.

7. Scientific literature to be considered

A vast amount of literature exists about the impact of roads on ecological systems, much of which is equally applicable to high speed rail. Notable summaries are covered in Forman et al. 2003, NRDC 1999, Evink 2002, and White and Ernst 2003. We request that an in-depth literature review be conducted on the impacts of high-speed rail on biological resources and be presented as part of an updated EIR/EIS. We specifically request that Rodriguez et al. (1997), Andrews (1990), Yanes et al. (1995), DeSanto and Smith (1993) be included in this review.

8. The EIR/EIS must asses impacts to conservation lands and planning areas

Regional conservation plans and County General plans are both designed to direct development into certain regions based on stated priorities. The addition of HSR service and associated stations will have an enormous impact on growth of this development. The impact of the HSR alignment options must be analyzed for consistency with regional conservation plans and County General Plans. The EIR/EIS must discuss the impact of the proposed project on all ecological reserves and regional conservation planning efforts. In addition, the regional conservation plans that are currently in scoping or planning phases must be considered and discussed as impacts from HSR could significantly change their reserve design capabilities.

9. The EIR/EIS must assess the economic costs of wildlife impacts

In France, there are 16,500 km of railway lines: 1500 km of TGV lines (existing and under construction) and 15,000 km of main lines (in service and electrified: electrification is used as a criterion of heavy traffic). The cost of direct collisions with wildlife is considerable. In 1992, on the high speed South East line (Paris-Lyon) 21 collisions incurred an expense of 1.26 million Francs (192,000 euros), due to delays and equipment repair costs (COST 2000).

10. The EIR/EIS must analyze the disruption of wildlife movement corridors

The EIR/EIS analysis must identify the relative impacts on wildlife corridors that would be caused by each potential alignment. Furthermore, this analysis must go beyond the by the Missing Linkages Report, because the report lacks an adequate analysis regarding which species are affected. Additionally, there is no analysis of the level of the impact on these species in terms of the significance of the disruption of their movement corridors on their ability to survive. For instance, a fence that was erected to keep foot and mouth disease from spreading into South Africa caused the death of hundreds of thousands of wildebeest because it prevented them from

moving north (Andrews 1990). Impacts that must be discussed include entanglement in fences, restriction of access to needed water supplies, prevention of movement into good habitat, disruption of seasonal movement, limited dispersal which causes local overpopulations, and inbreeding due to genetic isolation. Therefore, the EIR/EIS must include identification of the species, the specific corridors that would be disrupted, and what this disruption means for the species' conservation for each considered alternative.

11. The EIR/EIS must include an analysis of impacts to vernal pools/ wetlands

Any adequate analysis of the vernal pool and wetlands impacts must go beyond the data contained in the National Wetlands Inventory. This inventory is incomplete in California and, similar to the reliance on the CNDDB for species occurrences, is biased towards areas that have been surveyed opportunistically. A complete analysis of wetlands impacts requires on-the-ground surveys to document presence. Additionally, wetlands are impacted far beyond the project footprint, with any changes in watershed hydrology potentially altering wetland functions anywhere within that watershed. For vernal pools, initial proposed critical habitat (67 FR 59883 59932; September 24, 2002) should be used to determine impacts to the 15 listed vernal pool species critical habitat. The final vernal pool critical habitat is currently under litigation due to the exclusion of nearly 1 million acres based on faulty calculations by the US Fish and Wildlife Service. Until an acceptable new designation is released, the original proposal must be used to assess the impacts.

C. Species and habitat concerns that appear in several alignments

1. Impacts to Grasslands

Central Valley grasslands are a highly threatened ecosystem, with over 95% of the native habitat overrun with invasive, annual grasses. The remainder is under imminent threat from urban and suburban development and changing agricultural practices. Special statues birds (including federally and state listed threatened and endangered or special concern) number seventeen and include: Swainson's hawk, California burrowing owl, loggerhead shrike, horned lark, grasshopper sparrow, northern harrier, white-tailed kite, white-faced ibis, tri-colored blackbird, sandhill crane, ferruginous hawk, prairie falcon, short-eared owl, golden eagle, mountain plover, long-billed curlew, and Merlin. Additionally, Central Valley grasslands attract the highest density and diversity of wintering raptors anywhere in the world. This habitat also supports several endemic or near-endemic species or subspecies of reptile and amphibians including the San Joaquin whipsnake, the blunt-nosed leopard lizard, Gilbert's skink, and the giant garter snake. The Delta green ground beetle and Valley elderberry longhorn beetle are federally listed insects that occur in grassland habitats. Grasslands historically supported several large mammals including pronghorn antelope, elk, (including Tule Elk), mule deer, grizzly bear, gray wolf, coyote, mountain lion, ringtail, bobcat, and San Joaquin kit fox, many of which still roam the less developed remnants.

The EIR/EIS must adequately analyze the impacts in terms of quality of habitat that will be impacted and how this effects the ability of species to survive as well as use this habitat as part

of the Pacific Flyway. Of particular concern is the Grasslands Ecological Area of the northern San Joaquin Valley, This is a 160,000-acre area in Merced County located between the towns of Dos Palos, Los Banos, Gustine and Merced. The Grasslands includes seasonally flooded wetlands, semi-permanent marsh, woody riparian habitat, wet meadows, vernal pools, native uplands, grasslands, and native brush land. This collection of diverse habitats is important for a wide variety of wetland species and hundreds of thousands of shorebirds migrate through the area. It has been recognized by the Western Hemisphere Shorebird Reserve Networks one of fifteen internationally significant shorebird habitats, by the American Bird Conservancy as a Globally Important Bird Area, and is currently nominated as a Wetland of International Importance under the Ramsar Convention. All three of the prestigious titles recognize the importance of the grasslands to a variety of wildlife, including several rare and endangered species, its critical role as wintering habitat for Pacific Flyway waterfowl, and its status as the largest remaining block of wetlands in what was once a vast Central Valley ecosystem. Although Grasslands provides wintering habitat for twenty percent of the Pacific Flyway waterfowl populations, encompasses one of the largest remaining vernal pool complexes, and supports several federally listed or proposed threatened and endangered species including the San Joaquin kit fox, Aleutian Canada goose, Swainson's hawk, and tri-colored blackbird, this area was not adequately addressed in the original Draft EIR/EIS.

In addition, the growth-inducing impacts of stations in Los Banos, Merced, and Gilroy will be enormous for the Grasslands Ecological Area and must be analyzed. We predict that these impacts will be too significant to mitigate. As a result, we recommend no stations be built in these locations. The final alignment may need to avoid this area altogether due to the ecological impacts. Ultimately the goal of the HSR project should be to connect the larger metropolitan centers in the state, not to create more in ecologically sensitive areas.

2. California Burrowing Owl

The California burrowing owl is a California state species of special concern. This species is known to occur (CNDDB) throughout the entire alignment of the HSR proposal. Records indicate that California burrowing owls have been found within 1800 ft of previously proposed alignments, including: Sacramento to Stockton (Alignments UP1, UP2, BNC1, BN1, UP5, UP6, BNC2), San Jose to Oakland (west and east alignments), San Jose to Merced (Southern route alignments), and Tulare to Bakersfield.

Of particular concern is that burrowing owl often prefers to nest near roads and artificially raised areas (such as berms and levees). Clearly, nesting near the HSR alignments could pose a problem in terms of survival including collision mortality, increased predation risk, and decreased habitat connectivity. We expect the EIR/EIS to include information an all impacted species such as the following example for burrowing owl:

- Species description
- Distribution
- Seasonal activity
- Substrate Affinities and Burrow use (or equivalent special habitat needs)
- Home range
- Reproduction

- Dispersal
- Habitat characteristics
- Population status
- Threats
- Conservation status
- Impact of proposed project
- Mitigation
- Justification that mitigation reduces the impacts to a non-significant level

D. Impacts to potential alignments in the Bay Area to Central Valley Corridor

The spatial area analysis of species and habitat within a specified distance to each potential alignment must be sufficiently considered for all impacts, especially fragmentation and wildlife movement corridor impacts. A biologically defensible impact zone must be determined and analyzed in the EIR/EIS. In the GIS analysis references in prior comments to the HSR Authority, we buffered the proposed HSR alignments by 1800 meters on each side, as Forman et al. (2003) indicate that several biological effects of roads (including stream sediment, noise, vibration and light, habitat fragmentation/isolation, disruption of wildlife movement corridors, invasion by non-native species, and increased human access) go well beyond 1000 m.

Although we understand that the HSR Authority will consider new alternative locations for the Bay Area to Central Valley corridor, our understanding is that several locations initially considered in the original Project EIR/EIS will most likely be considered in the upcoming corridor-specific EIR/EIS. The information and comments that follow are therefore expected to be applicable.

1. Bay Area to Merced Route:

The following comments are in addition to the detailed comments previously presented by the Loma Prieta Chapter of the Sierra Club to the HSR Authority:

San Joaquin Kit Fox (SJKF)

The EIR/EIS must identify and analyze the SJKF habitat will be impacted by the Bay Area to Central Valley corridor alternatives. This analysis must include essential elements of SJKF biology, especially pertaining to movement needs, which make it particularly susceptible to negative impacts from the proposed high speed rail project. Without knowing the characteristics of this impact, it is difficult to impossible to plan to avoid and mitigate them. The EIR/EIS must include information such as the dispersal requirements and discuss wildlife crossing structures and how they can best be designed for this species. In particular, we request that information from previous crossings developed in consultation with the US Fish and Wildlife Service and the San Joaquin Kit Fox Planning and Conservation Team be consulted. HSR alignments in San Joaquin kit fox habitat should be equipped with directional fencing, frequent underpasses, and escape dens to prevent high levels of predation by coyotes.

All north and south alignments from Merced to San Jose cross through areas within Stanislaus and or/ Merced Counties that are identified as high priority recovery efforts by the US Fish and Wildlife Service Recovery Plan for the San Joaquin Kit Fox. These proposals will directly impact between 2019 and 3122 acres of this species habitat and fence off a major wildlife corridor for this species. The resultant habitat loss and fragmentation can cause decreases in fox abundance through changes in social ecology, productivity, spatial use, dispersal, and survival (Bjurlin 2003). San Joaquin kit foxes may range up to 20 miles at night during the breeding season (Girard 2001) and up to 6 miles during the pup-rearing season. Because they move at night, any lights associated with the high-speed rail project will have a negative impact on the ability to survive in the vicinity.

a. SJ to Bay Area Route

i. SJ to SF Alignment

Wildlife movement corridors impacted:
- BA 107: This corridor contains riparian areas as well as bay wetlands. It also provides a linkage for waterfowl, shorebirds, and the harvest mouse.

ii. SJ to Oakland Alignment

Critical habitat impacted:
- California tiger salamander critical habitat is impacted by the west route, Union City to SJ via coastline alignment.
- Vernal pool species critical habitat is impacted by the west route, Union City to SJ via coastline alignment.

Wildlife movement corridors impacted:
- BA 103: This corridor includes the Alameda Creek Watershed, which is a key linkage and choke point for steelhead, western pond turtle, CA red-legged frog and foothill yellow-legged frog.
-BA 104: This corridor contains Coyote Creek, which is a linkage and choke-point for salmon.
-BA 107: The HSR alignment crosses this corridor twice on the west route. This corridor contains riparian areas and bay wetlands which serve as linkages and stepping stones for waterfowl, shorebirds, and the harvest mouse.

b. SJ to Merced Alignment:

Critical habitat impacted:
- California tiger salamander
- Vernal pool species (South lines alignment)

Wildlife movement corridors impacted:
-BA 104: This corridor contains Coyote Creek, which is a linkage and choke-point for salmon.

i. North Lines – The Diablo Alignment

Wildlife movement corridors impacted:

-CV 8: This corridor is important for San Joaquin kit fox, giant kangaroo rat, blunt-nosed leopard lizard, short-nosed kangaroo rat, and LeConte's thrasher.
-CV 19: This corridor is important for Riparian brush rabbit, wood rat, W. yellow-billed cuckoo, neotropical migrants, ringtail (riparian habitat major). There is a need to maintain riparian species refugia above flood levels as part of the Recovery Plan for Upland Species of the San Joaquin Valley, USFWS 1998.
-BA 103: This corridor contains the Alameda Creek Watershed, which is a linkage and choke point for steelhead, western pond turtle, CA red-legged frog and foothill yellow-legged frog. This corridor is impacted by the North Tunnel Alignment Option.
-BA 104: This corridor contains Coyote Creek, which is a linkage and choke point for salmon (Minimize Tunnel Option and Tunnel under Henry Coe Option).

ii. South Lines – Pacheco Alignment:

-BA 10: This is the Santa Cruz Mountain – Mt. Hamilton Mountain corridor which is a choke point for mountain lion, bobcat, and coyote.
-CC 19: This corridor is a population recovery "stepping stone" and/or "migratory stopover" habitat for neotropical migratory bird species. It also provides connectivity for steelhead with headwaters spawning and rearing habitats, as well as a movement linkage for large and small mammals. Least bell's vireo was recorded here in 1997. This corridor is crossed a second time on Gilroy Bypass Option.
-CC 22: This is an important corridor for medium/ large-sized carnivores, including mountain lion.
-CV 18 (two different corridors with similar impacts): The species impacted by the disruption of this corridor include San Joaquin kit fox, blunt-nosed leopard lizard, and kangaroo rat. The important habitats in this corridor include Grassland, Alkali scrub, Alkali sink scrub, and marshland. This area is noted as important to the San Joaquin Recovery Plan.

II. Adequacy of mitigation measures

A. The EIR/EIS must discuss the use and adequacy of overpasses and underpasses to facilitate species movement.

Yanes et al (1995) studied vertebrate movement through 17 culverts under roads and railroads in Central Spain. The results of this study indicate that animal movement was dependent on culvert dimensions, road width, height of boundary fence, the complexity of the vegetation along the route, and the presence of detritus pits at the entrance of culverts. The construction of underpasses and overpasses is a nascent effort.

The following are some additional underpass/overpass issues that should be incorporated in the mitigation discussion:

- To reduce collision, fences should be checked, repaired, and built high enough, and vegetation should be kept down so that wildlife is not attracted to the railway.
- Wildlife crossings should be installed at a frequency of one every 1-3 km in areas where there are large animals, regardless of how many large animals are observed, and one every 5-10 km where there are no large animals but the habitat is favorable for them.

Because these animals follow traditional routes, success depends greatly on the location of the passage. The crossing should be built on the exact site of the interrupted path if it is to be really effective. The restoration level should be as near as possible to the natural ground level; however, connecting gradients does not make the structure ineffective.

- Underpasses are effective only if they are large enough and properly landscaped.
- Planting trees along the lines, the tops of which would be at least the same level as the top of the pylons, can reduce the risk of collision for some bird species.
- For amphibians, some of the compacted ballast under the rails should be removed, and prefabricated corridors should be installed under the rails. For tortoises, netting should be buried 10 cm deep alongside a rail to direct them to a passageway.
- Vegetation in edge zones that is attractive to ungulates should be removed. Elimination of vegetation from railway verges makes it easier to see animals alongside the railway and limits their presence by not attracting them.
- Reflective mirrors, repellents, ultrasound, and road lighting are not effective in reducing collisions.

See COST – European Co-operation in the Field of Scientific and Technical Research. 2000. Habitat fragmentation due to transportation infrastructure. COST 341, French state of the art report

1. San Joaquin Kit Fox:

Underpasses are the preferred crossing structure for SJKF and should be at least 0.5m high and 0.5m wide. Also, in order to maintain normal daily movement patterns, underpasses should be placed every 0.5km. Exclusionary fences should be used to encourage foxes to use the crossing structures (Bjurlin 2003). Fencing should be buried in the ground deep enough that coyotes, foxes, and other digging animals cannot dig under them and enter the tracks. Artificial dens and dens to escape predators should also be incorporated alongside the tracks in San Joaquin kit fox habitat.

B. Numerous reasonable mitigation measures were not even discussed in the EIR/EIS.

The EIR/EIS discussion of mitigation was so cursory that it failed to include the following potential mitigation strategies:

ii. Speed of operation
iii. The preference to construct rail lines along existing roads only
iv. The installation of wildlife warning devices
v. Reduced train speed in wildlife areas or during times in which wildlife are active (e.g., May for bears).
vi. Carcass removal to decrease attraction for carnivores and scavengers.
vii. Clean up of any spilled grain or food attractants.
viii. Reduce vegetation that is attractive to wildlife
ix. Minimizing fragmentation and/or maximizing the ration of areas of fragments.
x. Narrowing travel corridors.
xi. Insulation of catenary suspension wire.

xii. Oversizing of insulators to discourage perching by birds.

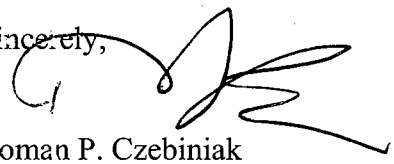
These are just a few of the mitigation options that should be discussed in the EIR/EIS.

Again, biological impacts of the high speed train will vary considerably based on alignment. The EIR/EIS must provide the information necessary to evaluate these differences. The analyses suggested above, which are technically feasible, must be performed in advance of alignment decisions.

III. Conclusion

We appreciate the opportunity to provide scoping comments in response to the Notice of Preparation of the Proposed California High Speed Rail Project, Bay Area to Central Valley Corridor, Environmental Impact Report/ Environmental Impact Statement (EIR/S). Please keep us informed of any upcoming matters related to the High Speed Rail project.

Sincerely,



Roman P. Czebiniak
California Representative
Defenders of Wildlife

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DEFENSE OF PLACE

A PROJECT OF THE RESOURCE RENEWAL INSTITUTE

Californians for Western Wilderness

A project of Resource Renewal Institute

December 9, 2005

Dan Leavitt
Deputy Director
California High-Speed Rail Authority
925 L Street, Suite 1425
Sacramento, California 95814

Dear Mr. Leavitt,

Defense of Place (DoP) and Californians for Western Wilderness (CalUWild) appreciate the opportunity to comment on the scoping process of the Bay Area to Central Valley EIR/EIS.

Defense of Place works to assure that parks, open space, and wildlife refuges are protected in perpetuity. Defense of Place is active in resource protection campaigns throughout California and the Western United States.

Californians for Western Wilderness is an unincorporated citizens organization with more than 710 members and supporters dedicated to encouraging and facilitating citizen participation in legislative and administrative actions affecting wilderness and other public lands in the West.

DoP and CalUWild are concerned with the impacts that the Bay Area to Central Valley (BACV) section of the high-speed rail (HSR) project will have on protected landscapes including parks, open space, and wildlife refuges (often referred to as Section 4(f) and (6) Resources.) We are also concerned that the high-speed rail will also impact conservation lands such as the Nature Conservancy's Mount Hamilton project and threaten future expansion of such conservation endeavors in the region. Our organizations appreciate the earlier decision that Henry Coe State Park will be left out of any of the potential routes for the Bay Area to Central Valley crossing, but continues to be troubled with the fact that protected landscapes continue to be seen as a viable option for HSR routes. There should be *no* impacts on both 4(f) and 6(f) resources or on other conservation lands.

Californians strongly value their parks, open space, wildlife refuges and other protected lands. California voters have recently supported initiatives giving billions of dollars to further acquire preservation lands for future generations. Propositions 204, 12, 40, and 50 together allocated about $3.2 billion for a broad array of land acquisition and restoration projects. These allocations include funding to the several state conservancies and the Wildlife Conservation Board (WCB), as well as for ecosystem restoration, agricultural land preservation, urban forestry, and river parkway programs.[1] California's open, scenic, and wild places are a driving force behind the state's $80 billion tourism industry.[2] Access to open and protected places is a major factor in attracting businesses, workers and tax paying residents.[3] California clearly values and depends on permanent protection for lands already set aside for preservation.

Support for the California High Speed Rail from the environmental community has been remarkably low for a project with such a multitude of benefits for California's ecosystems. One of the main reasons for this lack of support has been the HSR's potential impact on parks, open space, and wildlife refuges as well the perceived low-priority of protecting these resources by the High Speed Rail Authority (HSRA). While the decision to avoid Henry Coe State Park and its Orestimba Wilderness was a welcome first step, the HSRA should focus on eliminating *all* the direct negative impacts of the HSR on 4(f) and 6(f) resources in the Bay Area to Central Valley corridor. Doing so would gain substantial support for the HSR from the environmental community.

Within the study area there are many federal, state, and locally protected landscapes including, but not limited to: Don Edwards National Wildlife Area, Grasslands Ecological Area, Anderson Lake, George Hatfield State Recreation Area, San Luis State Recreation Area, Cottonwood Creek Wildlife Area, Los Banos Wildlife Area, Ohlone Regional Wilderness, Sunol Regional Wilderness, and Pacheco State Park. Even though some of these areas have not be included in earlier route proposals, Defense of Place would like to bring attention to the presence of these other resources to prevent their inclusion within the new BACV routes. Proposed routes for the BACV corridor must avoid all of the listed resources.

While federal law requires that the impacts on section 4(f) and 6(f) resources be considered in an EIR, which occurred in the FEIR for the HSR, it does not require that protected lands purchased by private conservation groups such as the Nature Conservancy or local land trusts be considered (unless those lands were purchased with funds from LWCF.) Included within the study area are large tracts of land such as the Nature Conservancy's Mount Hamilton project, and other conservation areas protected by private organizations. Conservation organizations and land trusts typically purchase private properties with the intention of either protecting them with a conservation easement or transferring them to public entities. Since lands purchased by conservation could easily become protected 4(f) or 6(f) land within the foreseeable future, the HSR BACV route must avoid these areas.

The routing decisions, and potential station locations of the HSR BACV corridor will have an impact on development growth patterns in Northern California. Because development induced by the HSR will create negative pressures on protected landscapes, those pressures and

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[1] California Legislative Analyst's office
http://www.lao.ca.gov/analysis_2004/resources/res_03_cc_resourcebonds_anl04.htm 8/5/04
[2] California Lodging Industry Association. http://www.clia.org/ 8/5/04
[3] Lerner, Steve and Poole, William. "Open Space Investments Pay Big Returns." *Land and People* Spring 1999

impacts must be considered in the EIR/EIS. The HSRA must use existing transportation corridors such as Altamont to minimize the negative impacts of induced development

Again, Defense of Place and Californians for Western Wilderness appreciate the opportunity to comment on the scoping for the Bay Area to Central Valley route of the California High Speed Rail. Please keep us informed of your decision in this matter by sending us the Draft EIR/EIS when it is released, and let us know of further opportunities for involvement in the planning process.

Respectfully submitted,

Jason Kibbey
Director
Defense of Place
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415-928-3774
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Michael J. Painter
Coordinator
Californians for Western Wilderness
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San Francisco, CA 94121
415-752-3911
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Silicon Valley
High-Speed Rail Coalition

December 15, 2005

Dan Leavitt
High Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Dear Mr. Leavitt,

On behalf of the Silicon Valley High Speed Rail Coalition, I write to express our strong support for the inclusion of the Pacheco Pass alignment, and variations of that alignment, in the California High Speed Rail Authority's Northern Mountain Crossing Study.

The Silicon Valley High Speed Rail Coalition strongly urges the High Speed Rail Authority to give thorough consideration to the Pacheco Pass, and variations of that alignment, as the route by which high-speed trains would enter the San Francisco Bay Area. We urge the CHSRA to drop from consideration any route that would bisect the Isabel and San Antonio Valleys, just north of Coe Park. Such a route would have significant negative impacts on the sensitive wildlife corridors in this remote region of the Mount Hamilton Range.

Although we know the Altamont Pass alignment will be studied in the Bay Area EIR/EIS, we would like to take this opportunity to restate our opposition to this alignment. We believe the environmental and operational reasons that the Authority gave for rejecting this alignment in the statewide EIR were sound and still stand.

Thank you for your hard work on this important project. We look forward to the completion of the Bay Area specific EIR/EIS and appreciate the opportunity to share our views.

Sincerely,

Laura Stuchinsky
Director of Transportation and Land Use
Silicon Valley Leadership Group

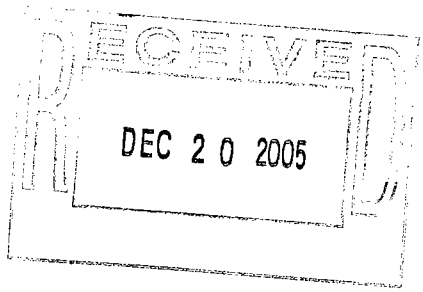
cc: Bay Area Regional Rail Plan

Congressman Mike Honda
Congresswoman Zoe Lofgren
State Senator Elaine Alquist
State Senator Abel Maldonado
Assembly Member Simon Salinas
Assembly Member Rebecca Cohn
Assembly Member Joe Coto
Advocates for Coe Park
Applied Materials
Associated General Contractors of California
Building and Construction Trades Council of San Mateo County
California Apartment Association, Tri-County Division
Caltrain
CELSOC-Santa Clara County Chapter
City of San Jose
City of Santa Clara
City of Sunnyvale
Coherent, Inc.
Gilroy Chamber of Commerce
Dianne McKenna, board member, Peninsula Open Space Trust and former member of the California Transportation Commission
Operating Engineers, Local Union No. 3
Pine Ridge Association
Sally Probst, housing advocate
Redwood City-San Mateo County Chamber of Commerce
SAMCEDA
San Jose Downtown Association
San Jose Silicon Valley Chamber of Commerce
San Jose Convention & Visitors Bureau
Santa Clara & San Benito Counties Building & Construction Trades Council
Santa Clara County
Santa Clara Valley Transportation Authority
Silicon Valley Leadership Group
Solectron Corporation
Town of Los Gatos

Silicon Valley Leadership Group

224 Airport Parkway, Suite 620
San Jose, California 95110
(408)501-7864 Fax (408)501-7861
http://www.svlg.net
CARL GUARDINO
President & CEO

December 15, 2005



Dan Leavitt
High Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Dear Mr. Leavitt,

On behalf of the Silicon Valley Leadership Group (SVLG), I write to express our views on which alignments are appropriate to study in the Bay Area EIR/EIS process.

By way of reference, the Silicon Valley Leadership Group was founded in 1978 by David Packard of Hewlett-Packard and represents 200 of the Silicon Valley's most respected employers. SVLG members collectively provide nearly 250,000 local jobs, or one of every four private sector jobs in Silicon Valley.

SVLG supports the study of the Pacheco Pass alignment and other alternatives that do not pass through the Henry W. Coe State Park or through the Isabel and San Antonio Valleys just north of Coe Park. The negative environmental impacts of choosing a route that passes through Coe Park or the Isabel and San Antonio Valleys would be significant, and for those reasons we do not support including those alignments in the EIR/EIS study.

Although we know the Altamont Pass alignment will most likely be studied in the Bay Area EIR/EIS, we believe the Authority's decision to reject the Altamont Pass alignment—after thorough consideration—was the right one. For operational reasons alone, this route is not a viable option. The Altamont Pass would necessitate a three-way split to serve Oakland, San Francisco and San Jose, resulting in operational costs twice that of the other options under consideration. It would also require trains to pass San Jose and then turn south (from Modesto) to reach Silicon Valley—increasing travel times between San Jose and Southern California by as much as 35 minutes. To not maximize the frequency to one of the largest population centers in the region—San Jose—does not make sense for the economic-viability of the line.

We look forward to the completion of the Bay Area specific EIR/EIS. Thank you for your consideration of our remarks.

Sincerely,

Carl Guardino
President & CEO

cc: Bay Area Regional Rail Plan

TRANSPORTATION SOLUTIONS DEFENSE AND EDUCATION FUND

16 Monte Cimas Avenue Mill Valley, CA 94941 415-380-8600 383-0776 fax

December 16, 2005
By E-Mail & Fax

Dan Leavitt, Deputy Director
CA High Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Re: Scoping Comments for Bay Area to Central Valley High-Speed Train

Dear Mr. Leavitt:

The Transportation Solutions Defense and Education Fund, TRANSDEF, has been an advocate for the regional planning of transportation, land use and air quality for the past decade. We were active in preserving the Transbay Terminal as the terminus for High-Speed Rail in California. On the basis of our familiarity with Bay Area transportation issues, we offer the following scoping comments on the EIS/R being prepared for the Bay Area to Central Valley High-Speed Train.

Alternative Definition
Define an Altamont alternative as follows:

1. Use the HSR portion (gold colored lines) and lower-speed local portions (red colored lines) of the plan drawn by Architecture 21, available at
http://www.arch21.org/BARegRail.dir/regrailindex.html
and as shown in more detail in maps linked to
http://www.arch21.org/CaHighSpeed.dir/Altamont_Tour.dir/tourindex.html

2. Assume that an all-day expanded ACE service shares the HSR tracks to San Jose, using the same trainsets as HSR so as to be compatible (they might possibly be designed for 125 mph instead of 225 mph to save weight and money). These trains would stop at HSR and local stations as defined above. Service levels would be designed to meet demand at local stops, with many or most trains turning around at Fremont or Livermore to go back to San Jose. This service would be an upgrade of the currently planned BART extension to San Jose, and would replace it. Use the ridership projections developed by the Regional Rail Study. For an example of a schedule that intermingles HSR and local trains, see
http://mtcwatch.com/Transit%20Maps/Rapid%20Exports/HSRinfo.pdf

3. Build the local stations with 3 or 4 tracks through them, as needed, to allow HSR trains to pass through them safely, as well as to pass these ACE local trains. Build passing tracks as needed to allow HSR trains to get around local trains which serve more stops.

4. Count the ship traffic that currently passes through/under the Dumbarton rail bridge. Evaluate trends to determine whether more ship traffic is likely in the future. On the basis of that analysis, determine whether a low bridge would suffice, if the swing only needed to be opened a few times a year. Determine the potential interruption of train schedules for that scenario. On the basis of this analysis, evaluate this alternative with either a low bridge or a replacement high bridge.

Methodology

1. Evaluate each alternative for unused capacity to carry more trains.

2. Evaluate each alternative for total population living within 20 miles of the tracks.

3. Evaluate each alternative for potential additional ridership to be gained by serving local, interregional, commuter and intercity markets, using compatible trainsets.

4. Evaluate how well each alternative serves Silicon Valley north of San Jose.

5. Carefully peer review all downtown San Jose land use projections for feasibility, political reality, airport flight path height limitations and impacts on adjacent neighborhoods. Evaluate the feasibility of these projections in the context of other San Jose planning initiatives which encourage more parking lots downtown, along with growth in the North First Street area and in Coyote Valley. We are concerned that current projections used for the BART extension project appear to have been manipulated to affect the cost-effectiveness analysis.

Thank you for considering these comments.

Sincerely,

/s/ David Schonbrunn

David Schonbrunn,
President

BayRail *Alliance*

formerly *Peninsula Rail 2000*

3921 East Bayshore Road, Palo Alto, CA 94303 toll-free tel. (866) 267-8024

Fax to (916) 322-0827

Dan Leavitt, Deputy Director
California High-Speed Rail Authority
925 L Street, Suite 1425
Sacramento, California 95814

December 16, 2005

Dear Mr. Leavitt:

I'm writing on behalf of BayRail Alliance to comment on the issues we'd like to see examined in the Bay Area to Central Valley Program EIR/EIS.

We support studying the alignment for HSR through the Altamont Pass to San Francisco, and to San Jose via Milpitas, Montague Expressway/Trimble Road and Mineta San Jose Airport as proposed by Michael Kiesling. He has specific recommendations for exact route and where it would be tunneled, and where it would be mounted on an aerial structure. We understand that he has submitted detailed route maps to you, and would like for you to examine his detailed proposal. Detailed maps are available on his website by clicking on the links on the page http://www.arch21.org/BARegRail.dir/BayRailDetailMaps.dir/mapindex.html

We also ask that you respond in detail to Mr. Kiesling's letter submitted to you previously, dated August 30, 2004 "Comments on DEIR/EIS for the proposed California High Speed Rail Project", since the programmatic EIR did not address the specifics of a possible Altamont alignment. Those comments are also posted on-line at http://www.arch21.org/CaHighSpeed.dir/hsrimages.dir/HSR_DEIR-MK.pdf

Please also address Mr. Kiesling's comments on an Altamont alternative as posted at http://www.arch21.org/CaHighSpeed.dir/costs.html

Henceforth in this letter, when we refer to an "Altamont" alignment, we are referring to the alignment from Merced through the Altamont pass to both San Francisco and San Jose that is proposed for HSR by Michael Kiesling of Architecture 21 and described at http://www.arch21.org/BARegRail.dir/regrailindex.html as well as the maps indexed at http://www.arch21.org/BARegRail.dir/BayRailDetailMaps.dir/mapindex.html

In assessing the ridership and potential revenues that this Altamont alignment would produce, we ask that you also examine the following:

(1) The potential commute ridership for the Altamont Commuter Express service if it shares this alignment instead of continuing to use its existing tracks and route. Note that ACE is interested in using the high-speed alignment through Altamont, if it is built, to improve service levels and quality. ACE is already considering purchasing

and running trains that would be compatible with high-speed trainsets, even non-FRA compliant ones. These trains would join the high-speed rail line at Stockton or Tracy (depending on how far the initial system extends) and run to San Jose and to Redwood City or San Francisco. Please note that Altamont Commuter Express is already looking at how to acquire trains that could be used on both high-speed and conventional freight lines and possible combinations of FRA-compliant and non-FRA compliant equipment that could be used to operate in both environments if need be.

(2) Please model the ridership on HSR by daily commuters from the Tri-Valley and Central Valley, assuming that commuters are willing to endure travel times as long as the current total trip time of ACE commuters from Stockton to San Jose using HSR, or as long as the 2020 projected travel time of the same distance by car, whichever takes longer. Please model this ridership under two different scenarios; one with ACE continuing to provide local service on this alignment, and one in which ACE is not providing any service at all but where HSR is providing approximately half-hourly or hourly service (depending on projected demand) to cities along this alignment using varying patterns of skip-stop service.

(3) The ridership with BART extended to Livermore from Dublin/Pleasanton at a shared station with this Altamont HSR alignment, and with BART extended to San Jose via the current VTA proposal, with a shared station with this high-speed rail alignment at Irvington in Fremont;

(4) The ridership with BART extended to Livermore from Dublin/Pleasanton at a shared station with this Altamont alignment, and with BART extended only as far as a new Fremont station shared with this high-speed rail line, per the Kiesling Regional Rail Plan proposal.

In addition, please examine:

(5) The impact of this Altamont alignment on the future cost and construction timeline of building HSR to Sacramento from the Bay Area, and the impact of a southern or Pacheco alignment on the future cost and construction timeline of building HSR to Sacramento from the Bay Area;

(6) The impact of this Altamont alignment on future HSR travel times to Sacramento from San Francisco and San Jose, and the impact of a southern/Pacheco alignment on future HSR travel times to Sacramento from San Francisco and San Jose;

(7) The number of train-car loads per hour needed to transport the total projected passenger demand between San Francisco and Los Angeles, and between San Jose and Los Angeles, in the year of opening and approximately every five years thereafter until 2050, under the two scenarios of a) an Altamont route into the Bay Area and b) a southern/Pacheco route for HSR to enter the Bay Area.

(8) The traincar-miles-day that would be required of trains from Los Angeles if all HSR trains enter the Bay Area using the Altamont alignment and are decoupled in Fremont so that a segment of the train travels to San Jose, and a segment to San Francisco in accordance with the travel demand as defined by item (7) above;

(9) The traincar-miles-day that would be required of trains from Los Angeles if all HSR trains enter the Bay Area using the Altamont alignment and with some trains proceeding to San Jose, and some to San Francisco in accordance with the travel demand as defined by item (7) above;

(10) The traincar-miles-day that would be required of trains from Los Angeles if all HSR trains are routed through a southern/Pacheco pass alignment to San Jose and along the Caltrain right-of-way to San Francisco in accordance with the travel demand as defined by item (7) above;

(11) The resulting operating cost, maintenance cost, and capital cost of the HSR project under scenarios (8), (9), and (10) above;

(12) The number of tracks along all portions of the rail line between San Francisco and San Jose that would be required if a Pacheco or other southern alignment is used to bring HSR into the Bay Area under the two scenarios of a) Caltrain is using FRA-compliant trains and b) Caltrain has converted to using non-FRA compliant trains that can be run on the same tracks as HSR (please show this graphically);

(13) The number of tracks along all portions of the rail line between San Francisco and San Jose that would be required if an Altamont Pass alignment is used to bring HSR into the Bay Area under the two scenarios of a) Caltrain is using FRA-compliant trains, and b) Caltrain has converted to using non-FRA compliant trains that can be run on the same tracks as HSR (please show this graphically);

(14) The number of HSR trains each day that would be passing through each station on the peninsula between San Francisco and San Jose under scenarios (8), (9), and (10) above;

(15) The attendant noise levels along the corridor that would result from the scenario (14) above;

(16) The energy consumption that would occur for transportation between San Francisco and Los Angeles and San Jose and Los Angeles under the various scenarios;

For items (8), (9), (10), and (11) above we refer you to Kiesling's analysis posted at http://www.arch21.org/CaHighSpeed.dir/route.html

Thank you for the opportunity to provide comments on the scoping of the Bay Area to Central Valley EIR/EIS.

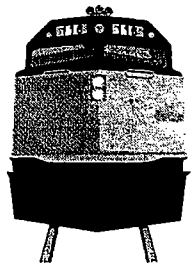
Sincerely,

Margaret Okuzumi

TRAC
Train Riders
Association
of California

1008 Tenth Street #276
Sacramento, CA
95814-3502

(916) 557-1667
trac@omsoft.com



December 16, 2005

Mr. Doug Kimsey
Project Manager, Bay Regional Rail Study
Metropolitan Transportation Commission
101 8th Street
Oakland Ca 94107

Subject: Regional Rail Study

Dear Mr. Kimsey:

Fifty years ago cars were carried across the Bay on boats, freeways were rare and trains ran on the Bay Bridge. Since that time the automobile has gradually taken over and it's now time to change course. The Regional Rail Study looks ahead fifty years. It therefore represents a unique opportunity to set things straight. TRAC regards the Bay Regional Rail Study as a means through which the Bay Region's transportation system can be brought gradually back into balance.

The Train Riders Association of California (TRAC) welcomes the opportunity to participate in the Study. Since many of our members live and work in areas that will be affected by its results, TRAC has a strong interest in helping ensure that these results are both practical and worthwhile. Attached is a TRAC Position Paper with suggestions relating to General Criteria, Project-specific Selection Criteria, Proposed Study Elements and General Principles:

Thanks for your stewardship of this landmark study. You may count upon TRAC's continuing interest and participation in the Study, which we regard as vital to the future well being of the Greater Bay Area.

If you have questions or wish to discuss any of the above proposals please contact Michael Kiesling, the Chair of TRAC's Bay Region Task Force, or Gerald Cauthen, TRAC's President.

Sincerely yours,

Alan C. Miller,
Executive Director

cc Dan Leavitt
Gary Patton
Tom Matoff

Bay Regional Rail Study
Initial Suggestions and Recommedations

General Criteria

- The selected alternative should serve the overall objective of minimizing the necessity for....and length of....automobile trips
- It should result in a reduction of total Bay Region VMT below today's level by at least 1/4% a year for at least the 50-year study period
- It should avoid allocating scarce transportation dollars to wasteful or inappropriate projects promoted by special or parochial interests

Project-Specific Selection Criteria

- Projects should meet or exceed FTA's New Starts Cost-effectiveness and other Standards
- They should serve transit-oriented development either through infill in urban centers or brownfield development
- They should make maximum and optimal use of existing rail right-of-way, where it is able to support reliable, higher-speed passenger service.
- They should include acquisition of new rail ROW where required to support reliable 125 + mph commuter rail service and/or high speed rail service
- In any event they should be conducive to regular and reliable long term passenger rail service
- They should conform to a pulsed system, such that transfers between trains, key bus lines and ferries involve minimal wait time, or no wait time where the headways are the same
- They should avoid locating stations inaccessibly or unattractively in the middle of freeways

Proposed Study Elements

- Eliminate the ill-conceived BART-to-San Jose extension from consideration. If that is not possible, include at least three Study alternatives that feature replacement of the BART extension with a commuter rail service operating on existing ROW

- In all alternatives, include both the Transbay Terminal project and a suitable BART/Railroad intermodal station in the Union City/Fremont area, both of which are vital to the building of an effective transit network in the Bay Area
- With respect to the Transbay Terminal, determine patronage both with and without the underground ped-ramp connection between the mezzanine levels of the Transbay Terminal and either Embarcadero or Montgomery Station
- Include a speeded-up and more frequent Capitol Corridor Service, with additional trackage as required to eliminate interference between passenger trains and freight trains
- Include an electrified Caltrain Service, extended into the Transbay Terminal
- Include extending ACE service into San Francisco
- Include an efficient BART/Mainline transfer station in downtown or West Oakland
- Consider the effect of depressing or elevating the section of passenger and freight rail line that passes through downtown Oakland
- Consider the financial and other benefits of raising bridge tolls to $5 for the purpose of supporting transit services
- Provide an "early action" list of high priority projects deserving of immediate State funding

General Principles

1) Specific steps should be taken to make certain that rail development does not encourage more sprawl. For this reason the new and expanded rail lines should serve transit-oriented housing and other development created by infill within urban centers and "brownfield development" (redevelopment of outmoded retail, commercial, warehouse and factory districts). Potential for brownfield development along rail lines and the creation of new activity nodes that constitute environmentally responsible development should be weighed against the pros and cons of increasing densities in historic town centers. Special consideration should be given to municipalities committed to clustering their new development around rail stations.

2) With respect to high-speed Bay Area access, it is essential that the selected alignment be the one most beneficial to the most people, based upon an impeccably fair and objective assessment of the situation

3) If a northerly high-speed Bay Area access alignment is chosen it should incorporate a 125 + mph commuter rail service

4) For cost estimating purposes it is essential that the high-speed rail track sections be defined carefully. For the Southern Alignment the section should extend from Chowchilla, the San Joaquin Valley junction point, to Redwood City. For the Northern Alignment the section should extend from Manteca, its San Joaquin junction point, to Redwood City and from Fremont to San Jose. The cost of the Chowchilla to Manteca section should be excluded from the cost of the Northern Alignment because the Chowchilla to Manteca section will have to be constructed in any event to serve Sacramento.

5) Given the excessive traffic congestion that already plagues Bay Region urban centers, there should be no more expansion of Bay Region freeways and expressways

6) A single regional fare structure should apply to all transit services. Multi-ride fares should be discounted

7) For modeling purposes, free shuttle services between major transit nodes and major employers should be assumed

8) For modeling purposes, free employee parking should be replaced with free employee transit passes

9) For modeling purposes, the effect of regional express bus lines, ferry routes and local train and bus lines must be taken fully into account. This would include regional buses in the Transbay Corridor (unless a second transbay tube is assumed) and in the I-680 corridor, among others. Connecting important centers with regional, other express and local buses in a carefully coordinated manner is logical and should not be excluded from the modeling analysis.

10) To achieve valid modeling results, rail system capacities must be accurately defined. If, as is widely believed, BART's capacity in MTC's current model is "unconstrained", this flaw must be corrected.

11) Ferry service between railheads should also be modeled as part of the rail network. This proposal applies particularly to SMART's railhead in Larkspur.

12) Alternatives should be evaluated based upon life-cycle costs, not just capital costs.

13) During the 50-year Study period, all passenger rail equipment in use today will be replaced once or twice. Therefore, the study must consider and model both vehicles that comply with today's FRA standards and those that don't, such as the state-of-the-art vehicles in current use all over Europe.

14) Excepting for units operating on freight railway lines, passenger trains should be level-boarding. Except for BART they should conform to standard dimensional and loading criteria, thus allowing the widest number of worldwide suppliers to bid for equipment orders.

15) Multiple rail modes within a single corridor, such as the Fremont-to-San Jose Corridor, must be modeled in a manner designed to show the effect of each existing and contemplated service on each other service. Duplicative services should be avoided whenever possible.

16) A intense and comprehensive negotiation, participated in by transit properties, governmental officials, rail vehicle suppliers, environmentalists, passenger rail advocates, freight operators and others, will be required to bring about the adjustment of current mainline dispatching practices needed to permit both freight trains and passenger trains to operate reliably and efficiently on common tracks or in common ROW.

17) Despite dispatching improvements, there will be instances where it will be necessary to consider acquiring portions of privately owned freight rail ROW for exclusive passenger rail use. In such cases, it will be essential to balance the capital costs of these acquisitions against the interference and other problems associated with joint freight rail/passenger rail operations.

18) The rail development and expansion contemplated in the Study must be organized and laid out as part of a seamless, region-wide system, such that funds are allocated and administered on behalf of a single regional network, as opposed to being controlled and managed separately by "Caltrain", "ACE", "BART" and other individual properties. Transit patrons don't really care very much about who owns the trains, buses or boats they use, but they do care about how well the system functions as a system.

19) For similar reasons it is essential that high speed rail services are developed within the regional framework, meaning that in certain sections there should be both 125 + mph commuter rail service and high speed rail service operating within the same high speed right-of-way.

20) To assure an accurate basis of comparison, it will be necessary to develop realistic estimates of future automobile operating costs, bridge tolls, hot lane costs, parking costs and availability and fare levels. All of these variables are currently unknown but reasonable assumptions will have to be made if there is to be any hope of producing realistic "out-year" results.

Dan Leavitt

From: Carrie Pourvahidi
Sent: Monday, December 05, 2005 9:37 AM
To: Ellen Unsworth (eunsworth@jsanet.com)
Cc: Dan Leavitt
Subject: FW: EIR/EIS Comments

Ellen,

Here is the first comment we have receive via our website on the BA-CV EIR/EIS.

Carrie

-----Original Message-----
From: HSR_Online_Comments@hsr.ca.gov [mailto:HSR_Online_Comments@hsr.ca.gov]
Sent: Monday, December 05, 2005 9:18 AM
To: Carrie Pourvahidi
Subject: EIR/EIS Comments

Date: 12/5/2005

Title: Mr.
Name: David Whittum
Organization: Heritage District Neighborhood Association
Occupation: engineer

Email: whittum@ieee.org
Phone: 650-906-7681
Fax:
Street: 306 Angel Avenue
City: Sunnyvale
State: CA
Zip: 94086

Comments:
Noise impact of present Caltrain operations, particularly near present engine idling locations must be characterized in order to quantify the impact (+ or -) of electrification and separation of crossings. Our neighborhood in downtown Sunnyvale presently experiences peaks in excess of 90dB(A) and CNEL in excess of 70dB(A) in residential areas. Contributors include passby noise, idling noise, crossing bells, horns, military aircraft, passenger aircraft and traffic noise.

Would separation of crossings and electrification reduce the noise we experience? It seems likely, however, the details of the track configuration, and any additional mitigation measures are important to consider.

The Federal Transit Administration guidelines have not been followed to-date in our neighborhood, nor have the guidelines of the State Office of Noise Control been adhered to. Our General Plan requirements have been violated by the VTA in funding the Baby Bullet upgrade, and by Caltrain in performing it. No public agency has taken responsibility for evaluating the devastating impact of this federally funded environmental nightmare on: our community cohesion, learning disabilities, alcoholism, domestic instability, owner-occupany, and property values.

Additionally, the sooty depositions due to Caltrain diesel-electrics on our homes, outdoor structures, and gardens have not been evaluated for toxic content, e.g., lead, benzene and mercury. Should residents avoid planting edibles?

Present exposure of VTA and other responsible local agencies has not been evaluted to inverse condemnation and other litigation.

Interaction of track alignment with present DOT funded public works has not been evaluated

--- specifically the Mathilda Overcrossing Rehabiliation, Federal Project No. BRLS-5213 (018) . The last EIR indicated that an elevated alignment was an option at Mathilda, an egregious error. Meanwhile, there may be insufficient room between the presently planned new pillars to make way for a 3rd track. This should be evaluated and Federal Project No. BRLS-5213(018) should be put on hold until the matter is settled, otherwise 12.5M$ of FHWA funding is placed at risk.

This comment incorporates by reference the following public comments submitted on Federal Project No. BRLS-5213(018):

http://home.earthlink.net/~whittum/hdna/comment2.pdf
http://home.earthlink.net/~whittum/hdna/errata.txt

Thank you kindly for your time.

Dave Whittum

Dan Leavitt

From: Carrie Pourvahidi
Sent: Thursday, December 15, 2005 11:07 AM
To: Dan Leavitt
Subject: FW: EIR/EIS Comments

-----Original Message-----
From: HSR_Online_Comments@hsr.ca.gov [mailto:HSR_Online_Comments@hsr.ca.gov]
Sent: Wednesday, December 14, 2005 3:20 PM
To: Carrie Pourvahidi
Subject: EIR/EIS Comments

Date: 12/14/2005

Title: Mr.
Name: Michael Kiesling
Organization: Architecture 21
Occupation:

Email: mk@arch21.org
Phone: 415 440-6895
Fax:
Street: 1000 Union Street #207
City: San Francisco
State: CA
Zip: 94133

Comments:
Dan / Carrie-

Quick comments on the Bay Area / Central Valley EIR/EIS scoping.

The study area should be expanded to cover the proposed line starting at the Fresno station to allow for a look at an alignment along UPRR/99 to Merced. The BNSF runs far to the east and would make a connection to the Pacheco alignment at Chowchilla run further than necessary. An alignment west of 99 should be re-examined from Merced to Manteca to minimize the length of a line connection to an Altamont alignment. Maps on my website at: http://arch21.org/BARegRail.dir/BayRailDetailMaps.dir/mapindex.html show that it is possible to thread a line out to the BNSF north of Modesto, but it is challenging. I think west of 99 could be acceptable to the agencies with concerns when the trade-offs are examined.

The scope of the study should also be extended to provide for the analysis of an Oakland connection via a conversion and extension of BART's Dublin line to part of the CHSRA system. Any connection from a line through Niles Canyon to either existing rail alignment north to Oakland will be complex to accomplish. The Dublin Canyon alignment also provides a much shorter route to Oakland.

I assume you will admit that long distance commute services can be operated on either alignment, ala CTRL.

I am more than happy to accept an invitation to meet with you about any of this at most any time. I want to see this thing built. As it stands, Morocco will have a high speed network before California.

Thanks for all your work.

-Michael

Dan Leavitt

From: Mehdi Morshed
Sent: Wednesday, December 21, 2005 10:33 AM
To: Dan Leavitt
Subject: FW: High Speed Rail for Pacheco Pass.

From: Anthony.Dominguez@pro.sccgov.org [mailto:Anthony.Dominguez@pro.sccgov.org]
Sent: Friday, December 16, 2005 9:36 AM
To: seboland@gmail.com; board@bayrailalliance.org
Cc: mrroadshow@mercurynews.com; diridon@mti.sjsu.edu; Mehdi Morshed
Subject: High Speed Rail for Pacheco Pass.

To whom it may concern,
Your organization/website is completely off base in its support of an Altamont Pass alignment for the proposed High Speed Rail system. The preferred alignment through the **Pacheco Pass** is far superior to your recommendation for the following reasons:

1) Less tunneling through southern mountains (less costly).
2) No new bridge over the SF Bay (less costly...we are now seeing how expensive cost overruns can be for the Bay Bridge eastern span and new Carquinez bridge). A new bridge might also harm valuable marsh land.
3) follows existing rail corridor from Gilroy to SF, no need to create new corridor (again, less costly).
4) More direct route into Bay Area from Central Valley/Southern California (as opposed to the awkward "zig zag", north-southwest-north orientation of the Altamont proposal).

The Altamont alignment is nothing more than a commuter proposal for Bay Area workers who've CHOSEN to live 1-2 hours away in the Central Valley...why should we subsidize their commute and choice in lifestyle? It should also be noted that these Central Valley commuters already have the ACE train, limited access highways in 580/680, and BART into eastern Alameda County. San Jose/Santa Clara County's main connector to the Central Valley/Southern California is a two-lane farm road known as Hwy. 152. The Pacheco Pass alignment gives residents of the Southbay a badly needed alternative to Hwy. 152. Also, **San Jose**, the **third largest city in the state**, should be on the main line of the system and not a spur...why should smaller towns like Tracy and Livermore be on the main line?
The proposed High Speed Rail system is designed and intended to provide alternative transportation between Southern and Northern California. To that end, the Pacheco Pass alignment is the superior Bay Area/Central Valley alignment for the proposed High Speed Rail line. Thank you for your time.

Anthony Dominguez,
San Jose, CA.

Dan Leavitt

From: Arthur Ringham [a.ringham@sbcglobal.net]
Sent: Monday, December 05, 2005 10:59 AM
To: goodeh@samtrans.com
Cc: Dan Leavitt; rdiridon@hsr.ca.gov; Jim Robinson; Jim Janz
Subject: Workshop, San Jose, Dec 1

Hello Howard,

I attended the subject workshop and thought it quite worthwhile. Following are some comments:

CONSULTANTS
I was surprised that there were no representatives from the consultant teams doing the Bay Area to Central Valley Program EIR/EIS study in attendance at the workshop (unless they were there but not introduced). It would be desirable for them to hear comments firsthand to get their detail, emotion and flavor, rather than just get a written synopsis later. I suggest they be present at future workshops.

OVERLAP
It seemed that the workshop comingled two overlapping studies:

1. The Bay Area to Central Valley EIR/EIS study by the California High Speed Rail Authority to recommend a fairly specific rail route for HSR to the Bay Area, with a scheduled completion date of July 2007 and

2. The Bay Area Regional Rail Plan study involving other (mostly rail) passenger transportation systems (and different legal entities which may have conflicting interests) within the greater Bay Area, but also including High Speed Rail. This study is also scheduled for completion in July 2007.

Although these two studies need to be coordinated, they should be separated insofar as possible and interfaces between them defined to keep both studies from getting bogged down in resolving conflicts. Where some aspects of the two studies conflict, resolution may not be practical through coordination before study completion dates and two separate "final reports". Provision should probably be made for an additional phase after July 2007 to resolve possible conflicts and complete an integrated plan.

CRITERIA
There are too many criteria and many are of a "motherhood and apple pie" nature which are difficult or impossible to measure.
If criteria can't be measured against, alternatives can't be compared and evaluated. The primary criteria, particularly for High Speed Rail, should be financial (return on capital) and answer the question "Which alternative is the best investment for California?"

Best wishes for success.

Jack Ringham

Dan Leavitt

From: Carrie Pourvahidi
Sent: Monday, December 19, 2005 9:57 AM
To: 'Ellen Unsworth'
Cc: Dan Leavitt
Subject: FW: EIR/EIS Comments

-----Original Message-----
From: HSR_Online_Comments@hsr.ca.gov [mailto:HSR_Online_Comments@hsr.ca.gov]
Sent: Friday, December 16, 2005 6:03 PM
To: Carrie Pourvahidi
Subject: EIR/EIS Comments

Date: 12/16/2005

Title: Mr.
Name: Doug DeLong
Organization:
Occupation: Opportunistic Activist

Email: DeLong007@aol.com
Phone: (650) 969-2631
Fax:
Street: 982 Wright Ave. #1
City: Mountain View
State: CA
Zip: 94043-4630

Comments:
I appreciate the California HSRA conducting this additional Program EIR/EIS process for connecting the San Francisco Bay Area to the Central Valley portion of the California High Speed Rail system. However, referencing the illustration on the face (non-address) side of the notice postcard, I think you need to think outside the shaded area when considering connections between the Bay Area and Central Valley.

Certainly the Central Valley portion of the system would replace the current Amtrak/California San Joaquin routes between Sacramento and Bakersfield, extending the rail mode all the way to Los Angeles, possibly beyond to San Diego.

Certainly the Peninsula segment of the Bay Area portion of the system would, in partnership with Caltrain and various regional sources of funds, upgrade the current Caltrain line to higher speeds and electrified propulsion, benefitting both long-distance HSR riders and Caltrain commuters.

It is my understanding that consideration of the Altamont Pass route in this process was mandated by the Legislature and I support that inclusion. In addition to its role as a connector within the HSR system, this route could potentially also benefit Altamont Commuter Express (ACE) riders by making higher speeds and less congestion from freight operations available to them. No doubt such an improved service offering would increase ridership among Central Valley residents commuting into the Bay Area. This potential source of revenue to the HSR system should not be overlooked in the analysis of alternatives. Also, the potential for inclusion of the Dumbarton line, slated to be activated for passenger service using regional funding sources, into the HSR system should not be excluded, especially as a faster connection to San Francisco from the Central Valley via Altamont.

I would also like 2 other potential connections between the Bay Area and Central Valley to be studied in this EIR/EIS: a San Francisco/Oakland/Sacramento connection and a San Jose/Salinas/Paso Robles/Wasco connection.

INDIVIDUALS AND PROPERTY OWNERS

SCOPING COMMENTS

LAW OFFICES OF
LOUIS ONEAL

96 North Third Street, Suite 500
San Jose, California 95112

Louis Oneal
Attorney At Law

(408) 293-0463
Fax (408) 293-9514

November 21, 2005

NOV 23 2005

California High Speed Rail Authority
Re: Letter input for Scoping Hearings
925 "L" Street, Suite 1425
Sacramento, California 95814

Re: Isabel Valley Proposed Route

Gentlemen:

It has been suggested that if the owners of property proposed as a potential route for the High Speed Rail wish to object to the train going through their property that they should indicate the reason for their objection. I have previously objected at meetings concerning this issue, as well as in writing, but wish to again indicate the reason for the owners of the Isabel Valley Ranch's position, which is that we will do everything within our power to prevent the ruination of this pristine wilderness area.

This ranch, which was originally a Mexican Land Grant, has had remarkably few owners since the 1800's. It is, I am told, the most important piece of property in the Diablo Range from the standpoint of its location, its topography, and the abundant wild life, which depends on it for survival and procreation. I have not had the opportunity of visiting all of the property making up the Diablo Range, but I am told by environmentalists and conservation groups who have had the opportunity of visiting all of the Diablo Range that this is the most unique and important property in the entire range. Robert Stevens, who is a Board Member of the Nature Conservancy, and the husband of Julie Packard, and who has been on our ranch on several occasions, refers to the Isabel Valley as the "Yellowstone of the Diablo Range".

On two occasions in the long history of the Isabel Valley, where ownership of the area was in dispute, it was important enough to the parties who claimed ownership, that the title to the property was adjudicated by the United States Supreme Court.

The property contains a variety of artifacts left not only by the Ohlone Indians, but by the Spanish explorers led by Captain Juan Bautist de Anza, who explored the area in the 1700's. We have been fortunate enough to have retrieved some of these artifacts, such as Spanish spurs and Indian artifacts which have been studied by the Archeology Departments at San Jose State University, the University of California at Berkeley, and Stanford University. The professors of those departments have confirmed with us that there are hundreds of Indian burials which are intact on the property.

The burial grounds are not just in the valley, but are present in the mountains and canyons surrounding the valley floor.

The Isabel is home to dozens of species of wild life and bird life, which have been essentially uninterrupted for centuries. The Isabel is home to horned toads, California Newts, frogs, turtles; a variety of bees and butterflies; insects, such as ladybugs; a variety of snakes, such as rattlesnakes, gopher snakes, water snakes and king snakes; 150 different varieties of birds as counted by members of the Audubon Society, which includes osprey, golden eagle, bald eagles, caspian tern, a variety of hawks, song birds, quail, egrets, wild pigeons, morning doves, roadrunners, wild turkeys, cottontail rabbits, bush rabbits, jack rabbits, opossums, skunks, raccoons, grey foxes, red foxes, coyotes, badgers, bob cats, mountain lions, antelope, deer, tule elk, wild pigs, ground squirrels, tree squirrels, weasels, Canadian honkers, and a variety of ducks, including, Wood Ducks, Mallards, Teel, Gadwalls, Widgeon, Bluebills, Mergansers and Mud Hens. Many of these ducks and geese nest on the ranch all year long.

The property contains several lakes, which are home to and the breeding ground for fish such as large mouth bass, crappie, blue gills, catfish, crayfish, minnows and trout, including native California trout in some of the water holes in Smith Creek and in the Isabel Creek. Both of these creeks drain into the Calaveras Reservoir which is part of the Hetch Hetchy System that provides water to the City of San Francisco.

I am told by hydrologists that an aquifer is under the Isabel Valley, which provides water year round in all of the canyons on the ranch, which sustains all of the wild life and bird life on the property. I am told that this aquifer exists on water from the Sierra Nevada Mountains. I would point out that all of these animals and birds exist only 18.4 air miles from the City of San Jose, and is the most important parcel of property in the entire County providing a breeding ground for all of this bird life and wild life. To disrupt this parcel in any way would be a devastating blow to the ecology and ecco system of the Diablo Range. When I say it is the most important section of that range, I am not unmindful of the existence of Coe State Park.

The south end of the valley is significantly higher than the north end and the south end is the location of Indian Springs, which runs the entire year and flows to the north by a series of ditches which fill the largest lake on the ranch in front of our four homes.

If a roadbed were to be constructed across the valley anywhere near the location indicated on the proposed route documents

which I have seen, it would in effect act as a dam, and would turn the Indian Springs area, if not into a lake, into a swamp. It also would greatly diminish the size of the lake in front of the houses because the existence of that lake would then be dependent upon rain water and the spring at the south end of the lake which provides drinking water to all of the houses.

In addition to these concerns, there might well be an impact on Roger Venable's property. He resides full time with his family at the southeast boundary of our ranch, which is within a quarter mile of Indian Springs.

The Isabel Valley Ranch has been in the same hands for 58 years. The owners have done a good job of maintaining the property in its original condition and are in the process of granting to the Nature Conservancy an easement over the entire property, which would insure in the years to come that it will remain an undeveloped resource for the entire Diablo Range and the birds and animals which inhabit it.

The owners of the Isabel would welcome any experts that the authority might designate to tour the ranch and confirm the facts set forth in this letter. In the interest of brevity, I have not mentioned the concerns that might well impact on the trees, flowers and grasses which the Isabel also contains.

Very truly yours,

Louis Oneal

LOUIS ONEAL

LO:prt

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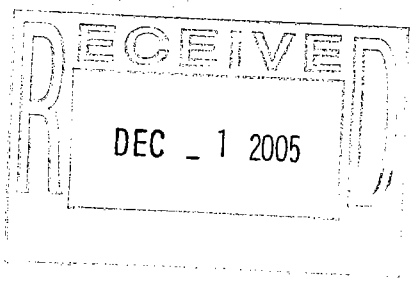


November 30, 2005

BY HAND DELIVERY AND MAIL

Dan Leavitt
Deputy Director
California High-Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Re: Notice of Preparation of a Program Environmental Impact Report/Environmental Impact Statement for a Bay Area to Central Valley High-Speed Train

Dear Mr. Leavitt:

This letter provides comments on the Notice of Preparation (NOP) for the Program Environmental Impact Report/Environmental Impact Statement for a Bay Area to Central Valley High-Speed Train (EIR/EIS). Consistent with the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) these comments address the scope of the analysis to be contained in the EIR/EIS including the potential significant environmental issues and range of alternatives, mitigation measures and significant effects that should be analyzed in the EIR/EIS. Furthermore, these comments focus on the potential alternative route that passes through the San Antonio and Isabel Valleys (the "San Antonio/Isabel Valley Alternative").

I am writing on behalf of the owners of a 1200-acre ranch located in the Diablo Range on the west side of the San Antonio valley through which the San Antonio/Isabel Valley Alternative passes. This ranch has been in our family since the 1930s. This property is primarily in a natural state. The property has two dwelling units in two separate locations and dirt fire roads that provide access to the remainder of the property. The property includes low mountains with brush and valleys with grassland, trees, creeks and ponds. This area is served by one county road.

The San Antonio and Isabel Valleys lie within a relatively undeveloped area in the Diablo Range between Pacheco Pass to the south, Altamont Pass to the north, the Central Valley to the east and the Santa Clara Valley to the west. This area includes Coe Park and Grant Park along with numerous large ranches that have not been subdivided. The area supports wildlife including large herds of elk, antelope, deer, and numerous birds. The area was also home to Native Americans and numerous artifacts remain from that time.

The current proposals for the San Antonio/Isabel Valley Alternative show short tunnel sections through low mountains and daylight sections in the valleys. The daylight section through the San Antonio Valley is estimated to be 165 feet above the valley floor. In order to support this elevated track we understand that an earthen berm will be built taking a 380-foot wide swath of land through the valley. In some places a 380-foot wide berm will fill the entire valley. A structure of this size will have a profound impact to a currently undeveloped and relatively undisturbed valley.

The potential subdivision of this large undeveloped area by the San Antonio/Isabel Valley Alternative creates numerous environmental impacts. In order to adequately assess those impacts the scope of the EIR/EIS should include a detailed analysis of all of the following:

1. The environmental impact of splitting this large undeveloped land area into two separate and distinct areas. The analysis should explore the impacts to wildlife that need the combined larger area to maintain a healthy population. Currently, a herd of approximately 50 elk live in the San Antonio Valley. They use the entire Valley moving from one section to another throughout the year. The 165-foot elevated train track would completely block and discourage movement up and down the valley decreasing the area available to the herd and threatening its long term survival.

2. The visual impact of adding a large distinctive linear feature to an undeveloped area. The tracks will be lined with chain link fence and razor wire to keep people and animals off the track. The tracks will be built on top of a berm 165 feet above the valley creating a strong linear feature. The train tracks with dominate the view in the valley. The strong linear element will clash with the existing mountains and valley. Even if vegetation is planted along the berm, the dry environment of the San Antonio Valley will extend the time required for any vegetation to become established enough to soften this view, and it will be impossible for vegetation to hide a structure of this size. The visual impact will be significantly obvious to those who live and visit the area.

3. The impact from disturbance of cultural resources during construction of the track and supporting structures. Native American resources are often located near water sources in valleys. Since the daylight sections of the track are in valleys near and across water sources, construction of these facilities will disturb Native American remains and artifacts. Archeologists have conducted little formal study of these areas. Covering these artifacts such that they cannot be recovered or failing to study and analyze artifacts found during construction must be analyzed.

4. The environmental impact of each train climbing to the elevation of the Isabel Valley of 2300 to 2400 feet and then descending into the Santa Clara Valley or Central Valley. The electricity to power these trains 24 hours a day will be created from power plants located inside or outside of the state. The incremental energy needed to power 64 trains a day up and over this area will create an additional increment of air pollution, water use

and consumption of natural resources. The amount of additional pollution, water use, etc. should be quantified for evaluation against other alternative routes.

5. The environmental impacts from the noise caused by the 64 trains planned to traverse this route each weekday. The San Antonio Valley is very quiet. Currently the siren from the Sheriff's car on Mount Hamilton can be heard to the San Joaquin/ Santa Clara County line. The county road has little traffic, and there is no industry in the valley. The houses are few and spread apart by open country. The sound levels created by this semi-constant train traffic will shatter the quite that currently fills this valley. The addition of this loud and constant sound level will also impact wildlife living near the tracks in the valleys where the train daylights and throughout the area.

6. The impact of construction of the track and tunnels on underground and above ground water sources. The San Antonio Valley is dry for part of the year. Losing a water source would severely impact the ability of wildlife to sustain itself in the valley.

7. The impact of an additional public safety hazard. Currently, the valley does not have a resident sheriff, fire department or paramedics along this route. Therefore, no one is authorized to call in a life flight helicopter. If someone is seriously injured along the route, it would be hours before that person could receive intensive medical attention.

8. The growth inducing impacts of this new transportation corridor must be considered. Regardless of station locations, construction of this corridor will begin to open this country to development. It will reduce the game and tranquility that has keep this area undeveloped and held in families for generations. Developers will take advantage of the relatively short distance between the bay area and these valleys and improve roads to allow easy commutes between this area and the developed Santa Clara Valley. These impacts must be considered in a realistic manner given the proximity of this area to the bay area.

Each of these impacts needs to be fully evaluated when a project plans to create a new transportation corridor in an area that currently does not contain such features. Adding the train along this proposed alternative will permanently change the rural character of the area, shatter the quite that currently exists and disturb the wildlife. Based upon these impacts, the EIR/EIS should also evaluate the following alternative and/or mitigation measure:

- A route that tunnels from the Central Valley to the Santa Clara Valley. A tunnel would avoid the disturbance to these pristine areas and avoid the change in elevation required to daylight in the San Antonio and Isabel Valleys. This alternative would require 12 miles of tunnel, which is feasible with a third bore to equalize pressure.

The San Antonio/Isabel Valley route alignment considered engineering economy only. The final alignment should consider minimizing environmental impacts. We appreciate the High-Speed

Rail staff visiting both the San Antonio and Isabel Valleys. In order to accurately assess the potential impacts from construction of this alternative, it is imperative that staff and their environmental consultants visit these beautiful places.

Very truly yours,

DOWNEY BRAND LLP

Jane E. Luckhardt

717474.1

cc: Charles Luckhardt, Jr.
Charley Luckhardt
John Luckhardt

260 Upland Road
Redwood City, CA 94086

Re: Scope of Bay Area to Central Valley EIR
December 12, 2005

Dan Leavitt, Deputy Director
California High Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Dear Mr. Leavitt,

Please consider studying the 152/Pacheco Southern Corridor alternative high speed rail route between the Central Valley and the San Francisco Bay Area that we discussed in our meeting in San Jose, CA on November 30, 2005.

This alternative route is south of Highway 152 and connects the eastern San Joaquin Valley from either the BNSF or UP railroads between Avenue 7 and Avenue 12 near Fresno and Madera with the west side of the San Felipe/Hollister Valley at or near Highway 101 and Control Point Carnadero on the Caltrain/UPRR rail line just south of Gilroy. This route traverses the mountains between Interstate 5 near Highway 146 in the east and Highway 156 south of its junction with Highway 152 in the west. The possible route is shown in the attached two maps.

A preliminary and cursory evaluation of this corridor indicates several possible advantages:

- No incursions of national, state or county parks
- Minimal displacement of agricultural, residential or commercial development
- Geologically stable terrain conforms to current construction technology parameters
- Natural features require minimal tunneling, the greatest being approximately 28,000 feet
- Grade vertical displacement of 1% is possible
- Construction zone is accessible via existing service roads to agriculture and utilities

It is respectfully requested that the scope of the Bay Area to Central Valley EIR/EIS include a thorough analysis of this 152/Pacheco Southern Corridor alternative as possibly an environmentally and economically viable high speed rail route. Thank you.

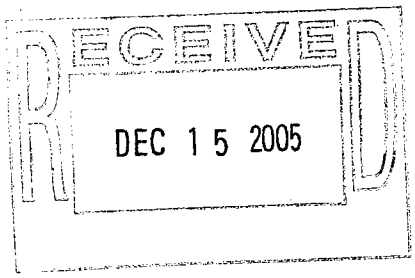
Sincerely yours,

Steve Rusconi

Steve Rusconi, PE

Attach: Map, 152/Pacheco Southern Corridor, Hwy 99 to I-5
Map, 152/Pacheco Southern Corridor, I-5 to Hwy 101, topographic view

Louis B. Deziel, Jr.
101 Seminary Dr
Menlo Park, CA 94025
(650) 462-4600



Dan Leavitt
Deputy Director
CA High Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

December 14, 2005

Re: Input to EIR for California High Speed Rail (CAHSR) on the SF Peninsula

Dear Mr. Leavitt,

I am concerned that CAHSR's plans for operating on the Caltrain Corridor will curtail Caltrain's ability to expand its own service to meet the needs of San Francisco Peninsula Cities and residents as market demand grows, including a mix of local, limited, and baby bullet trains, which requires passing lanes to operate. There is also the risk that CAHSR's plans could curtail Caltrain's existing service. In particular, these impacts would occur if CAHSR proceeds with a plan to usurp enough Caltrain ROW to operate two tracks dedicated exclusively to CAHSR, as claimed by Rod Diridon at a meeting in Redwood City last year.

I consider this a significant impact on the Peninsula's Transportation and Circulation capability that could significantly impact the economic vitality of both the Peninsula and Silicon Valley. This is because many of our large organizations already operate at or near transportation caps imposed by CEQA-based public process, leaving expansion of Caltrain service as one of the few opportunities to keep these organizations vital by accommodating their organic growth.

I also think the CAHSR plan articulated by Diridon represents a significant cumulative impact going too far, because, in some places, more than half of the Caltrain ROW would be usurped to operate two tracks exclusively by Caltrain. Most importantly, this could preclude Caltrain from having passing lanes that it needs to implement and expand its limited service schedule.

The aforementioned impacts make it unrealistic for CAHSR to operate a separate control system independent of Caltrain all the way up the Peninsula, including at the San Jose and San Francisco terminals. Fortunately, there is a way for CAHSR to avoid these impacts. The solution is for CAHSR to allow Caltrain to control all trains on the Caltrain ROW using one control system that spans all tracks. This would allow CAHSR trains to travel along the corridor on essentially any schedule CAHSR wants to offer yet would give Caltrain the passing lanes it needs to expand its schedule for the benefit of all cities on the Peninsula and the flexibility it needs to accommodate our freight trains.

Sincerely,

Louis B. Deziel

A High Speed Rail connection between Northern and Southern California

Abstract: Given that for any California high speed scheme the greatest revenue potential lies in forging a popular transit connection between Northern and Southern California any statewide California high speed rail scheme has a competitive and a cost problem; airline travel times through this corridor are one-half projected rail transit times and constructing a suitable rail corridor through urban areas is going to be expensive. One move that could meet both challenges; run high speed rail cars throughout the BART system. This will be a legal possibility if, as now seems likely, the Federal Railway Administration may waive crash survival requirements to build rail cars strong enough to survive a crash; provided that the train position detection system and braking systems that apply are robust enough so that crash risks are extremely remote. When these stringent separation conditions are met a compliant system may operate lightly constructed rolling stock similar to European or Japanese high speed trains or BART trains on the same track.

One-seat-rides within walking distance of prolific traffic generators such as San Francisco's Financial Center, Downtown San Jose and Oakland, and the UC Berkeley Campus may produce a faster origin to final destination travel time than present airline service with far less personal disruption. As explained below BART can accommodate double its current peak train traffic by applying a moving block separation system and adding more cars. Building costly new track parallel to BART's most crowded trunk line under Market Street in downtown San Francisco would definitely not be necessary as shown below. Nor would the increasingly expensive Trans-Bay Terminal be needed.

One innovation required to realize the full potential of a CAHSR-BART combination —split trains— would actually increase average CAHSR speed, enhance schedule reliability and sharply reduce costs of a three train per hour frequency for the majority of users.

Some new high speed track routes would be extremely valuable to Bay Area commuters. A San Jose to Altamont Pass branch for instance would parallel a crowded commuter route that would open the possibility for a strong commitment of local matching funds.

Introduction: Planners for the California High Speed Rail initiative seem to have taken to heart the motto of architect/planner Daniel Burnham, "Make no little plans ; they have no magic to stir men's blood and probably themselves will not be realized." The current CAHSR scheme has at least one route within 30 miles of most large urban areas in the state with the objective of significantly increasing long distance transit capacity while minimizing additional land use, noise, pollution and cost. Given the recent cluster of rail transportation tax increase referendum successes ranging with 70 to 80% approval votes in the San Francisco Bay it would not surprising that a CAHSR bond referendum will pass in the near future. But will the present CAHSR scheme achieve these worthy objectives?

Rail Potential: Rail transit technology is uniquely suited to accommodate high volumes on single one-way track. New York's 4 &5 and E & F lines carry over 40,000 passengers per hour per track. Some New York City Subway lines exceeded 60,000 passengers per hour per track before 1960. The Downtown San Francisco BART could accommodate 30,600 seated passengers per hour per track by applying a 'moving block' train detection system while adhering to BART's present train separation safety standards combined with a 46 second critical station dwell period. (See http://gulliver.trb.org/publications/tcrp/tcrp_rpt_13-b.pdf figures 3.12 and 3.13. and see Appendix A at the end of this paper.) Current peak scheduled train frequencies on this BART trunk line provides less than 50% of its potential capacity. Given the high urban capital cost for urban rail transit right-of-way($275 million per double track route mile for the Los Angeles Red Line) it would dramatically

reduce high speed rail right-of-way capital costs to share urban railway tracks for high speed interurban trains.

Regulation Changes: Until recently a careful reading of the Federal Railroad Commission operating permit rules should leave anyone to conclude that if high speed trains are to be operated on the same tracks as local service trains the local service trains would have to be built to a much higher strength standard and therefore be at least 50% heavier than is presently the case for BART system rolling stock. But on November 30, 2005 the California High Speed Rail Authority's Rod Diridon said that a Federal Transit Authority waiver was likely to be forthcoming that would allow high speed rail trains to operate in the U.S. if the brakes on all trains and train position detection systems on the tracks they use were of such quality as to render their collision probability as extremely low. Freight trains would not be allowed on any tracks used by high speed railway rolling stock operating under such a waiver. However local commuter rolling stock on isolated track could certainly be modified in order to adhere to these stringent collision avoidance standards.

CAHSR-BART Integration: This additional degree of design freedom would be an enormously significant regulation breakthrough that would permit a sharp reduction in CAHSR capital costs simultaneously with a dramatic enhancement for CAHSR access throughout major urban areas. For instance a system performance Federal Operating Waiver applied to the BART system upgraded to these stringent separation standards would open up the possibility of running high speed rolling stock throughout the BART system. In that case the distance and probable running time between Downtown San Francisco the and Altamont pass would be less using the BART route from San Francisco's Market Street through BART's Trans-bay tunnel and the Livermore Valley than the present High Speed Rail Altamont Pass proposal. The currently projected CAHSR Altamont Pass alignment alternative would require an expensive and circuitous, for San Francisco origin passengers, lower-trans-bay high speed rail crossing..

A further reduction in San Francisco to Livermore Valley Altamont Pass running time and reliability improvement could be achieved by constructing an Oakland 'Y' bypass and adding two express tracks from Fruitvale to Bay Fair. These express tracks would not only speed up interurban through trains but enable BART to provide express service between Bay Fair and San Francisco, add infill stations between Bay Fair and Lake Merritt and increase reliability for both express and local services due to the multiple-track by-pass potential. Thus a strong symbiotic relationship could evolve between BART and the CAHSR permitting a sharing of right-of-way capital costs while enabling a dramatic improvement in intra-urban service coverage and speed. No 'Trans-Bay Terminal' would be needed in the expensive to-build-in downtown San Francisco area; BART's four 30 by 700 foot platform Market Street Stations should provide enough capacity for CAHSR and BART for many years into the future.

Transfers Should be Avoided: The CHSR planners apparently expect a large and profitable ridership between the San Francisco Bay Area and Southern California, a travel market now served by a moderate cost frequent airline service running at twice the speed of the fastest projected CAHSR service. In order to compete effectively the CAHSR service must assume a significant-to-passengers quality that airlines cannot match. One strongly appreciated transit quality is a one-seat-ride to ones destination as clearly shown by a Federal Transit Administration sponsored study called 'Traveler Response to Transportation System Changes at: (http://gulliver.trb.org/publications/tcrp/tcrp_rpt_95c9.pdf). Consider the section concerning traveler response to transfers labeled: Wait and Transfer Time Savings on page 9-21 and its summary

embodied in Table 9-9 on page 9-22. This study concludes that travelers find the time lost in transferring to be many times more onerous than an equal length of extra time spent in a transit vehicle. This customer aversion to transferring is shown to be particularly true for those travelers who are not very frequent users of the route as would more likely be the case the longer the distance to be traversed.

One practical solution would be to integrate CAHSR trains into an extensive system such as BART. A particularly effective CAHSR-BART form would be for high speed MU cars to diverge from the San Joaquin Valley high speed trunk line near Tracy into multiple routes and stopping patterns covering most BART stops throughout the bay area yet permitting non-stop service from the high speed trunk line split point at Tracy Junction to Downtown San Francisco and a separate non-stop train to San Jose's Golden Triangle.

Split Train Advantages: It turns out that assembling or splitting long distance trains when approaching or leaving the sprawling San Francisco Bay Area would not only permit a material increase in the proportion riders being offered a one seat ride to Southern California but frequency, origin to destination average speed and reliability would be significantly enhanced at a sharply reduced cost due to the inherent nature of a split train service for the following reasons:

1. Frequent one seat rides from most BART stations to Southern California would be possible while simultaneously avoiding an increase in the high speed trunk line section traffic density to such a high frequency that operating costs would be excessive and reliability would decline due to an inevitably slow recovery from delays. For example 20 minute service could be provided from heavily used stations in Downtown San Francisco and Silicon Valley; at least hourly from all other stations with trunk line expresses operating with 20 minute headways. Conceivably it would be practical to offer one seat rides to Southern California from more than 30 BART stations throughout most of the San Francisco Bay area.
2. Faster service could be provided because individual line segments would have fewer stops than a block train with a skeleton stopping pattern trying to serve the entire area. One could schedule a non-stop run from BART's San Francisco Embarcadero Station to the long distance train assembly area near Tracy (Tracy Junction) in the San Joaquin Valley. Another section could start in Richmond make selected BART stops through Berkeley and Oakland and then continue with no other stops to Tracy Junction. Another section could start at the Oakland Airport, combine with the Dublin BART train in San Leandro and continue making all local stops on an extended BART local service to Tracy Junction.
3. Reliable on-time service could be more readily achieved due to the distributed nature of a multiple destination route system. A delay to a single train section would not usually hold back other sections of an assembling long distance train; especially if that delay is on a branch not used by most sections headed for the trunk line train assembly point or when the delay occurs along a multiple track section. In case the assembled trunk line train did not wait for a delayed section for more than 3 to 5 minutes the delayed section would not be forced to wait for the through express connection for more than an extra 17 minutes if the trunk line through train service maintained a 20 minute headway.
4. Some new route segments needed for the CAHSR System would also be quite valuable for local commuter service, thus opening the possibility for strong local funding for right-of-way construction costs. For example an 80 mph route from Tracy Junction to San Jose roughly parallel to the present Altamont Commuter

Express route would save an hour each way compared to present ACE schedules. Rolling stock utilization rates would be high on CAHSR collection runs with many intermediate stops because as commuters are being distributed along routes headed away from local commuter sources simultaneously long distance rail riders could be boarding the same cars.

Split train operation has a long illustrious history both in the San Francisco Bay area and especially in Chicago:
1. Within the last five years Muni light rail cars from different lines were combined into single trains for Market Street Subway runs.
2. The Oakland Key lines combined cars for run to the San Francisco Destination Ferry slip starting in 1925.
3. Electric MU split trains were once operated by Chicago's elevated lines, the South Shore (The only interurban street railway still running in the U.S.) the North Shore to Milwaukee and especially the Chicago, Aurora and Elgin where 52 line trains a day were assembled or split on that particular railway.

Some Incompatibility Issues:

1. BART's 1000 VDC third rail vs. the usual 25,000 volt AC on overhead catenary usually found on today's new long distance rail electrification projects. The answer is to build high speed rail stock that interfaces exactly the same as BART rolling stock to the !000 volt third rail. The CHSR MUs must also be able to connect to a 1000 VDC current source in line with the couplers from car to car and to an electric locomotive. Each electric locomotive would run only on track where overhead 25,000 VAC power was available especially on the San Joaquin Valley high speed trunk line and would also provide enough added traction power to sustain a 220 mph train running speed.
2. BART's 1.676 m track is the broadest gauge in wide use in a significant portion of the world's rail infrastructure; specifically in India. Note: the Indian Railway system was initiated by British designers already quite familiar with the 1.435 m gauge then as now dominant in the England and the U.S. One should also reflect on the fact that when designers sought great speed a broader gauge than in general use was chosen. Brunel's Great Western Railway in England had a 2.134 m gauge. The 1845 Gauge Commission found the 2.134 m gauge was superior in speed, stability and safety than on the more extensive 1.435 m track gauge. Japan's brilliantly successful Shinkansen uses a 1.435 m gauge instead of the 1.067 m extant in the rest of the country. But the most important consideration: a broad gauge train would be more likely to remain on its track during an earthquake.

Conclusion: The most elegant approach for producing a fast, convenient, and cost effective high speed rail service is to integrate local and statewide rail services on the same track. The shared track approach facilitates the fast and convenient collection and dispersal of passengers in broad urban areas for fast long distance rail service. The distributed nature of split train services enhances the system designer's ability to produce a high origin to destination average speed and maintain the most reliable schedules possible.

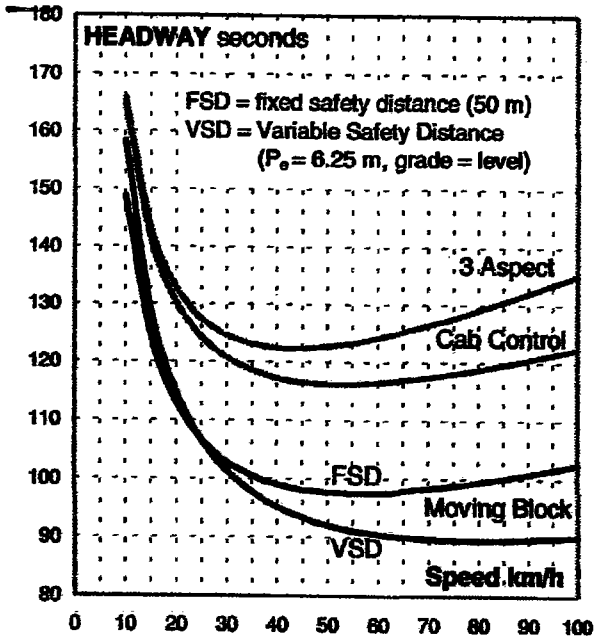


Figure 3.12 Moving-block headways with 45-sec dwell and 20-sec operating margin compared with conventional fixed-block systems

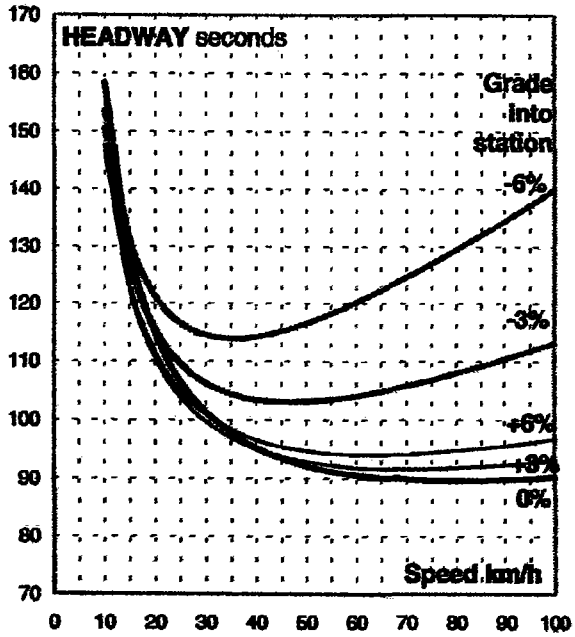


Figure 3.13 Effect of grades on a moving-block signaling system with variable safety distance

moving-block system with a speed variable safety distance shows the lowest overall headway. The difference between the two methods of determining the safety distance represents an eight second difference in the minimum headway—pointing out the importance of selecting the best method when a close headway is required.

The elasticity of moving-block headways with respect to voltage fluctuations will be negligible as the time to clear the plat-form is not a component in calculating the moving-block signaling system headway. The effect of grades is shown in Figure 3.13.

Downgrades (negative) into a station significantly reduce the minimum headway while positive grades have little effect.

3.9 TURN-BACK THROUGHPUT

Correctly designed and operated turn-backs should not be a constraint on capacity. A typical minimal terminal station arrangement with the preferred[41] center (island) platform is shown in Figure 3.14. The worst case is based on the arriving

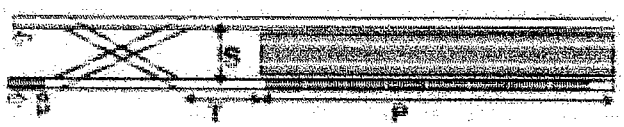


Figure 3.14 Terminal station track layout[42]

train (lower left) being held at the cross-over approach signal while a train departs. It must, moving from a stop, traverse the cross-over and be fully berthed in the station before the next exiting train (lower right) can leave. The distance involved is

$$D_a = P + T + CS \qquad \text{Equation 3-22}$$

where D_a = approach distance
P = platform length
T = distance from cross-over to platform
S = track separation (≡ platform width +1.6m)
C = switch angle factor
5.77 for #6 switch
6.41 for #8 switch
9.62 for #10 switch

The time for this maneuver is expressed as

$$t_a = 2\sqrt{\frac{2D_a}{a_s + d_s}} = 2\sqrt{\frac{2(P + T + CS)}{a_s + d_s}} \qquad \text{Equation 3-23}$$

where t_a = approach time
a_s = initial service acceleration rate in m/s^2
d_s = service deceleration rate in m/s^2

[41] While side platforms reduce the track to track centers and so reduce the maneuver time, they require passengers to be directed to the correct platform for the next departing train. This is inherently undesirable and becomes more so when a train cannot depart because of a defect or incident and passengers must be redirected to the other platform.

[42] The diagram shows no run-on space beyond the station platform. Where there is little or no such space, mechanical or hydraulic bumpers should be provided.

One Direction Single Track Capacity

Appendix A: Minimum Station Headway with BART's Projected Moving Block Signal System :

In the case where the minimum signaling headway is achieved by starting both the 1st and 2nd trains start at the same time. Both trains are always separated by a minimum safety distance $s_o = 60$ ft.

For both trains the distance traveled (S) while undergoing constant acceleration is: $S = \frac{1}{2}at^2 = v^2/2a$ when $t = v/a$

The minimum variable distance the 2nd train must always remain behind the 1st train as the 2nd train's speed increases: $S_{br} = (V_{x2})^2/2b_r$
The safety braking rate (b_r), applicable to the second train in this case, is the maximum braking rate permitted by current BART safety standards when train separation must be assured.

The 1st train's distance from start is: $S_1 = (V_1)^2/2a_1$

The distance the 2nd train will travels from its starting point is: $S_2 = (V_{x2})^2/2a_{x2}$
The 2nd train's acceleration rate (a_{x2}) is a dependent variable with its magnitude contingent on the values of a_1 and b_r and computed in the following manner.
The 1st train's distance from start is equal to the 2nd train's distance from start plus plus the minimum variable distance the 2nd train must remain behind the 1st train:

$$S_1 = S_2 + S_{br}$$

or:
$$(V_1)^2/2a_1 = (V_{x2})^2/2a_{x2} + (V_{x2})^2/2b_r$$
$$(V_1)^2/2a_1 = (V_{x2})^2[(1/2a_{x2}) + (1/2b_r)]$$
$$(V_1/V_{x2})^2 = a_1[(1/a_{x2}) + (1/b_r)] = a_1/a_{x2} + a_1/b_r$$
$$(V_1/V_{x2})^2 = a_1(1/a_{x2} + 1/b_r)$$

Let $R = V_1/V_{x2} = a_1/a_{x2}$
$$R^2 - R - a_1/b_{r2} = 0$$

Maximum acceleration and braking rates:
$a_1 = b_2 = b_n = 4.4$ ft/sec^2
Safety constrained braking rate: $b_r = 2.93 \approx 3$ ft/sec^2
$$R^2 - R - 4.4/3 = 0$$

Using the quadratic formula:

$$R = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$R = \frac{1 \pm \sqrt{1 - 4(-4.4/3)}}{2}$$

$$R = 1.823$$

The total close-up distance between the first trains's starting position and the second train's new position is: $nl' + s_o$
$$a_{c2} = a_1/R = 4.4/1.823 = 2.414 \text{ ft/sec}^2$$
$$nl' + s_o = (V_2)^2(1/2a_{c2} + 1/2b_n)$$
Let V_{c2} = equal the 2nd train's maximum velocity.
nl' = the train length = (10)(70) = 700 ft
$s_o = 60$ ft = the shortest distance allowed between trains.
$$V_{c2} = [(nl' + s_o)/\frac{1}{2}(1/a_{c2} + 1/b_n)]^{1/2}$$
$$V_{c2} = [(700 + 60)/\frac{1}{2}(1/2.4138 + 1/4.4)]^{1/2}$$
The maximum second train speed (V_{c2}) is:
$$V_{c2} = 48.7 \text{ ft/sec} = 33.2 \text{ mph}$$

The minimum close-up period ($h_{r\,min}$ – the time required for the second train to replace the first train stopped in the station) is:
$$h_{r\,min} = V_{c2}(1/a_{c2} + 1/b_n)$$
$$h_{r\,min} = [(nl' + s_o)/\frac{1}{2}(1/a_{c2} + 1/b_n)]^{1/2}(1/a_{c2} + 1/b_n)$$
$$h_{r\,min} = [2(nl' + s_o)(1/a_{c2} + 1/b_n)]^{1/2}$$
$$h_{r\,min} = [2(700 + 60)(1/2.4138 + 1/4.4)]^{1/2}$$
$$h_{r\,min} = 31.23 \text{ sec}$$

The minimum total station headway ($h_{s\,min} = 80$ sec) is the sum of the close-up time ($h_{r\,min} = 31.2$ sec), dwell time ($t_d = 46$ sec), and the acceleration rate change delay ($t_r = 2.8$ sec):
$$h_{s\,min} = t_d + t_r + h_{r\,min}$$
$$h_{s\,min} = 46 + 2.8 + 31.2 = 80 \text{ sec}$$
$$h_{s\,min} = 80 \text{ sec./train}$$
(3600(sec/hour)/(80 sec./ten car train) = **45 ten car trains/hour**

ridership, the system actually faced a 16 percent loss (Finn, 1997). Further exploration of the effects on VRE and other commuter rail ridership of service reliability problems, changing conditions on parallel transportation facilities, and other external factors is found in Chapter 8, "Commuter Rail."

The impact of strikes on transit ridership was the subject of a time-series analysis of the effects of major incidents on ridership in Orange County, California, including the 1979 gasoline shortage and transit strikes of 1981 and 1986. The work underscores the long-term effects a prolonged strike can have on transit ridership. The gasoline shortage caused a temporary 20 percent increase in ridership which only lasted as long as the shortage. The 1981 6-week work stoppage caused a 20 percent decrease in ridership and a prolonged multi-year negative effect on ridership levels. A shorter work stoppage in 1986 caused a similar decrease, but ridership levels returned close to normal relatively quickly (Ferguson, 1991). For an analysis of impacts *during* a strike, see the case study "Impacts of a Bus Transit Strike in the San Francisco East Bay Cities," in Chapter 10, "Bus Routing and Coverage."

UNDERLYING TRAVELER RESPONSE FACTORS

Wait and Transfer Time Savings

Service frequency changes affect the time a transit patron must wait for service, both initially and at transfer points. Increasing the frequency reduces these wait times and makes transit a more attractive travel mode. Studies of urban travel behavior show that the travel time implications of travel alternatives are a highly important determinant of consumer choices. For urban area travel to and from work, overall travel time savings are valued at roughly one-third to one-half of the wage rate, on average. The value depends on the choice situation involved, such as mode choice and path choice. Non-work travel time savings are usually valued less (Charles River Associates, 1997).

Not all components of travel time are equal in value per minute as perceived by the trip maker. Time components of the complete trip that are often referred to as the "out-of-vehicle time" are the time spent getting to and from motorized transport or waiting for the vehicle to arrive or depart. These appear to be more onerous than the time actually spent in the vehicle, the so-called "in-vehicle time." Typically, reductions in out-of-vehicle times are more highly valued than reductions in in-vehicle times, and thus more strongly affect consumer choice of mode. This finding has important service design implications

Travel demand research done using various modeling techniques has for some time suggested that transit wait time, transfer time, and walk time lumped together as "out-of-vehicle time" may be at least on the order of twice as important in mode choice as an equal time spent in the transit vehicle (Quarmby, 1967; Shunk and Bouchard, 1970; Schultz, 1991). More recent modeling efforts, utilizing advanced techniques and protocols for more precise treatment of out-of-vehicle time components, are divided between identifying out-of-vehicle time as being twice as important or four times as important as in-vehicle travel time. In the roughly twice as important category (basing out-of-vehicle time importance on the first 4.5 or more minutes of waiting for the initial bus, journeying to or from work) are Houston at 2.58 times in-vehicle time, Portland at 1.25 times and Cleveland at 2.13 times (Barton-Aschman, 1993; Kim, 1998; Parsons Brinckerhoff, 1998). In the roughly four times as important category, using the same basis of comparison, are

Minneapolis-St. Paul at 4.36 times and Chicago (bus and rapid transit) at 3.41 times (Parsons Brinckerhoff, 1993 and 1999).

An examination of over 50 work purpose travel demand models from throughout the United States found each minute of transit wait time to average 2.12 times as important as a minute of in-vehicle travel time. Ranges were from 2.72 average for urban areas under 750,000 population to roughly 2.0 for larger cities, and from 2.48 average for 1990s models to about 2.0 for older models (U.S. Environmental Protection Agency, 2000).

Newer models often afford differentiation among the out-of-vehicle time components. This capability provides mixed indications, but as discussed further in Chapter 10, transfer wait is most often shown to be of greater importance than the overall initial wait. If transit service is reasonably reliable, passengers can reduce the impact of the initial wait time by adjusting their time of arrival to more closely coincide with the transit schedule. Transfer waits, in contrast, cannot be controlled by the passenger. (The several references to Chapter 10 in this discussion refer specifically to the "Running, Walk and Wait Time" subsection within the "Underlying Traveler Response Factors" section of Chapter 10, "Bus Routing and Coverage.")

Table 9-9 gives the relative weights on travel time exhibited by the Minneapolis-St. Paul mode choice model. In this model, the relative importance of transfer wait time must be taken together with the importance of the penalty associated with each transfer to judge the degree to which travelers view transferring as undesirable. (Transfer penalties are examined further in Chapter 10.) Similarly, the relative importance of initial (non-transfer) wait time must be judged by taking the values for the first 7.5 minutes together with the values for additional wait time (Parsons Brinckerhoff, 1993).

Table 9-9 Relative Importance of Minneapolis-St. Paul Model Travel Time Components

Trip Purpose	Running Time	Initial Wait (First 7.5 min.)	Initial Wait (Over 7.5 min.)	Transfer Wait Time	Added Penalty per Transfer
Home-Work	1.0	4.36	0.88	4.36	none
Home-Other	1.0	4.00	10.78	3.77	17.27
Non-Home Based, Work Related	1.0	4.00	4.00	2.50	27.28
Non-Home Based, Non-Work Related	1.0	4.00	7.63	1.58	121.05

Notes: All values are normalized to minutes of running (in-vehicle) time. Relative importance values of 4.00 (four times as important as running time) are assumed on the basis of the home-work model calibration results. All other relationships are "originally estimated" using the 1990 Minneapolis-St. Paul survey data.

Source: Parsons Brinckerhoff (1993).

Note that in the case of the Minneapolis-St. Paul model, the time over 7.5 minutes is not viewed as even as important as running time by work trip commuters. This outcome is presumably because commuters know the schedule and can avoid a long time at the bus stop. Conversely, travelers making trips likely to be less repetitive and more discretionary apparently find the longer waits increasingly onerous, as indicated by the "Initial Wait over 7.5 Minutes" values in Table 9-9 for home-other (non-work) trips and non-home based non-work related trips.

BUSINESS

SCOPING COMMENTS

Georgia Monorail Consortium

Transit and Intercity Monorail Systems

Owen Transit Group, Inc.
Aebersold Technologies Corporation
AAR Corporation
Control Corporation of America
Transit Operating Services Company
MACTEC Engineering, Inc.
Tindall Corporation

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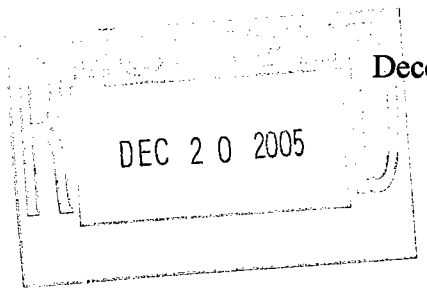
December 16, 2005



Dan Leavitt, Deputy Director
California High-Speed Rail Authority
925 L Street, Suite 1425
Sacramento, California 95814

Subject: Bay Area Regional Rail Plan Comment:

Dear Mr. Dan Leavitt,

Please recall our brief but informative exchange at the "regional rail" public meeting on December 1 in San Francisco. Attached is a copy of our comments and proposed technology for the subject plan. For your convenience I have also included a complete copy of our MTC submission that contains more detailed information on the HighRoad system.

We appreciate your assistance in conveying this information to the appropriate members and staff of the California High-Speed Rail Authority for their consideration in the forthcoming planning period.

Please do not hesitate to contact me for any questions regarding the material presented, and I would be pleased to meet and discuss further any and all aspects of our proposal.

Thank you very much for your kind attention and best wishes in the upcoming efforts of the Authority for the successful planning and implementation of a HS system for California.

Sincerely,

David T. Gallo

David T. Gallo
Director of Marketing
Georgia Monorail Consortium, Inc.
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Georgia Monorail Consortium

Transit and Intercity Monorail Systems

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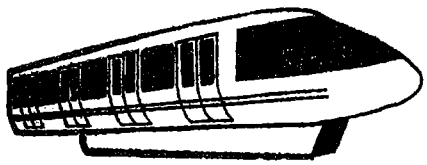

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December 14, 2005

Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607

Subject: Bay Area Regional Rail Plan Comment:

Dear Project Management Team Members,

On behalf of the Georgia Monorail Consortium, we are pleased at the opportunity to comment on the subject plan. We wish to comment on 4 specific planning areas and also provide information on our proposed alternative rail design for 21st Century transit.

Our central comment takes the form of a question: Why can we only think in terms of environment-unfriendly Railroad Trains, and cost-prohibitive BART Metro systems? What is so urgently needed at this stage of transport expansion in the Bay Region is a new lightweight rail design that is both affordable to build and operate, and more flexible for reaching into existing as well as new service areas.

While there is no one transportation mode that will solve all problems, the consideration of new rail system designs could be a relatively fast, easy and inexpensive way to provide effective service in the Bay Region. The fact remains that the cost of expanding current Metro rail systems is out of reach due to tight Federal and State spending, and burdensome local taxes. While conventional Railroad service on existing rail corridors could be more affordable than building new BART tracks, this transport mode is inefficient and environmentally unsound for the connector service desired to the Oakland International Airport, the downtown SF Transbay Terminal and the Larkspur Ferry Landing.

The attachments to our comments below contain specific information about the HighRoad Rapid Transit System (HRTS) that we are making available for appropriate consideration by the Regional Rail sponsoring authorities and study planning consultants (LTK Engineering). The key features of the proposed HRTS monobeam system are as follows:

- Not only does HRTS Monorail excel at people-moving performance, but at one-fourth of the cost of heavy rail and half the cost of light rail, it is among the most affordable systems today

- The dual-sided monorail (bi-directional), with single or double vehicles is an entirely different concept of operation from heavy rail and conventional railroad trains. HRTS runs smaller lightweight vehicles (120 passengers) and more frequent service (30 second headway) to accommodate people in time and space. This leads to smaller stations which means less cost and less space.

- Operating costs are estimated to be less than alternative systems due to lighter vehicle weight, lower energy use and automated controls. Lower operating costs, can more easily cover its costs from farebox revenues and not require additional operating subsidies. Lower operating costs may also allow recovery of the cost of construction. This efficiency can eliminate the need for added taxes for system construction and operation subsidy

- Elevated operation is less obtrusive than other forms of rail including earlier monorail designs. (6.5 feet for monobeam vs. 15 feet for monorail vs. 25 feet for conventional and heavy rail.

- The urban and the intercity systems use compatible guideways permitting urban system travel up to 70 mph, and longer distance HS service (Silver Bullet) of more than 200 mph.

- Modular construction and less disruption during construction periods are important benefits of this design. The first beam of the Las Vegas monorail system took less than three hours to install since it was fabricated off site. And, that beam was installed in about five months following ground-breaking. We estimate the rate of guideway construction at about 20 miles per year, assuming 3 shift crews working year round

- Lower construction costs, are demonstrated below in the estimated costs for some proposed extension lines in the Regional Rail plan, and for a 100 percent replacement of classic BART.

Comments Section

1. Improved Connections Between Passenger Trains and Other Transit Connections:

We urge MTC to consider alternative means for connecting service between the Caltrain terminus in SF and the downtown Transbay Terminal. We believe the proposed construction of a railroad tunnel to accommodate extension of Caltrain's direct service into the downtown area is expensive, extravagant, and environmental undesirable. The modern trend worldwide is to move the 19th century railroad train whenever and where ever possible, away from urban centers. Even if tunneling funds materialized as part of an overall California High Speed Rail network initiative, which is still uncertain at this time, newer transit rail designs can provide "lighter" alternatives for this connection at only a fraction of the cost of railroad tunneling. With SF Muni buses providing the current connector service into the SF downtown area, then it seems appropriate to offer the remaining Cal Train passengers a connection to the Transbay Terminal by elevated and automated guideway service. An elevated system is particular important to avoid accidents and adding more street congestion in the downtown area. Furthermore, the easier-to-build alternatives shorten and simplify the construction activity that is economically disruptive to local businesses.

The current Oakland Airport Connector project is a perfect example of where alternatives are being used. In this case BART is seeking an alternative means to its own "Metro System" technology for making a more cost effective connection to the International Airport

Similar consideration can be made for a connection between the San Rafael train station and the Larkspur Ferry. We agree that the proposed SMART rail system in Sonoma and Marin must have an easy and quick connection with the ferry service in Larkspur to be successful.

2. Expand the Regional Rapid Transit Network

We urge MTC to consider less costly alternative rail designs for expanding the existing Rapid Transit Network in the Bay Area to any of the proposed areas shown on the planning map. A major constraint to expansion has and will continue to be, the high cost per mile of extending the current system, especially in view of tighter Federal/State spending (growing Federal/State budget deficits), and more cautious spending by a local population already burdened by heavy sales and other taxes and bond indebtedness. We believe that the Bay Region planning must take into account that we are entering a new era of scarce funding resources for transport expansion projects.

Alternative design systems must also be highly oriented to individual service to attract people away from their privately owned vehicles. The Railroad passenger service offers some bay area commuters an alternative to their autos, but the speed and frequency of this service has not appreciably improved in 100 years.

We do, in fact, need to build E-BART between Bay Point and Brentwood but not with BART passenger trains that are too expensive to build and operate and which cannot improve the speed and timeliness of individual service.

We do, in fact, need to extend BART roughly 16.3 miles from Fremont to San Jose, but not with an estimated $ 4.7 billion BART system.. Furthermore, expanding the ACE system may be faster than building a new BART line, but certainly not much faster than the time needed to construct the guideway for a new lightweight and streamlined system design making use of modular and prefab construction methods. Also, the use of new elevated designs can bring the transit system into the downtown area of San Jose without the need for expensive underground tunneling.

3. Consider Various Rail Technologies Including New Designs of Existing Technologies

We support consideration of various rail technologies and urge MTC and the CHSRA to also include in the planning studies, an exploration of "new" rail designs of existing technologies. Rail transport technologies have progressed from the 19th century railroad design, to the 20th century "Metro" train design. Two other rail designs were introduced in the early and mid 20th century for local area transport, namely, the light rail system, and the elevated monobeam systems (monorails). Both provide low-impact (environment) and effective service but only as low-speed and low-passenger volume carriers and are not suited for rapid transit serving densely populated areas.

Specifically, newer lightweight rail designs (21st Century) with a smaller infrastructure, can boost the speed and carrying capacity of 1st Generation monorail designs. Furthermore, the streamlined design can provide a lower build/operate cost structure, further reduce noise and other environmental impacts, and improve service frequency by offering passengers a ride that meets their personal schedules (more frequent service). The new designs can be constructed with existing and proven off-the-shelf components already in operation. (See attachment 7)

We believe the 2nd Generation monorail would also supply proposed High Speed service connecting the Bay Region to the Central Valley. The newer designs can provide speeds up to 214 miles per hour. In the prior century, the introduction of high-speed railroad train technology for rapid long distance service in Japan, Europe and elsewhere, has proven effective but also expensive to build and operate and are not

without significant environmental concerns. Thus, both HS railroad technology and Metro train systems both have environmental and fiscal constraints. Nonetheless, we believe high-speed rail service using more current technology can still be considered highly desirable as an alternative to growing traffic congestion along California's interstate highways and inside our airports. In the interests of providing lower cost, environment-friendly service, we hope the MTC and CHSRA will consider alternatives to Railroad and Metro technologies.

In summary, we believe it is important that consideration be given to newer streamlined, rail designs that are cost effective, and environmentally sound and that can address rapid mass transit needs on a regional, inter-city, and statewide basis.

4. Rail Investment for Transit-friendly Communities, Business, and Urban Redevelopment.

We believe that rail transit investments can achieve these goals if the rail systems can be tailored to fit, a low-impact system with a friendly appearance that neither intrudes nor distracts from commercial and leisure activities. Achieving "low impact" means the transit system, consisting of guideway, vehicles, and stations, must be as small as possible without sacrificing the need for timely service and passenger volume. In the past this has meant placing rail system cars or trains, and stations completely underground and out of view when possible, or in the case of at-grade systems, further away from the areas of activity. Consideration needs to be given to less-intrusive low-impact systems so that rail transit can bring humans directly and timely into the activity area without disrupting the area. Rail systems that have a smaller footprint, i.e. small stations, individual cars rather than trains, quiet operation etc. can enter shopping centers, sports complexes, downtown areas, and other transit converging stations all with minimal disruption to area activities.. This feature allows rail transit to serve people which is the basis for economic development or renewal in the transit areas or destinations..

One example could be the proposed expansion to San Jose, where the new low-impact elevated design can bring service into the downtown area with minimal disruption to economic activities during the construction period and virtually no disruption during subsequent operation of the system. Other examples are connection links from CalTrain to Transbay Terminals into downtown SF or from downtown San Rafael to the Larkspur Ferry landing.

Alternative Design of Existing Technology

We present the attached material about the HighRoad Rapid Transit System (HRTS) to MTC and CHSRA for the planning study. A comprehensive overview of all HRTS design components can be found in the HighRoad Technical and Management Briefing Book (see attachment 6). We trust this information will be considered in the "screening phase of the Rail Plan Step-by-Step process. Please do not hesitate to contact us for further information or discussions at any time.

To further demonstrate the potential of HRTS to provide cost effective service to the Bay Region, we offer below the preliminary cost estimates (for planning purposes only) for various proposed projects. To further illustrate the streamlined design of HRTS, we estimate the rate of guideway construction at about 20 miles per year, assuming 3 shift crews working year round.

Finally, we included a cost estimate for BART replacement using HRTS because of the previous suggestions from other transit consultants that BART compare the cost of 100 percent replacement with a

new system vs. the cost of a very long-term step-by-step renovation of its current 35 year old system. The importance of such a comparison is particularly acute when considering the words from the Draft Short-Range Transit Plan &Capital Improvement Program: FY06 through FY15:

"Although the completion of the first generation renovation program ($1.5 Billion) represents a significant achievement for which BART and its funding partners can be justifiably proud, there remains the formidable challenge of funding and implementing a second or next generation renovation program, which, by necessity, will go much deeper into the physical plant of the system."

Estimated Cost of Proposed Expansion Projects Using the HighRoad Rapid Transit System.

Oakland Airport Connector Line (3.2 miles with travel times less than 3 minutes): $ 214 million

E-BART Transit Line (23 miles, 6 stations):

- Regular Transit Service (70 mph service): $ 950 million.
- High Speed (Silver Bullet Version with 214 mph service): $ 1.02 Billion.

Note: Both Regular and High Speed Service use the same guideway and station infrastructure

Fremont to San Jose: (16.3 miles, 4 stations) : $ 700 million

BART "Next Generation" Replacement: (104 miles, 43 stations): $ 4.2 billion

Sincerely,

David T. Gallo
Director of Marketing
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GEORGIA MONORAIL CONSORTIUM
STATE OF GEORGIA
AUTHORIZED SIGNATURE

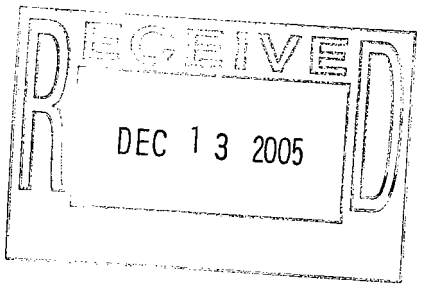
Attachments: HighRoad Rapid Transit System:

1. HighRoad Rapid Transit System: General Description and System Specifications
2. Owen Transit Group, Inc. (HighRoad Design Company)
3. HighRoad and Heavy Rail
4. HighRoad and Light Rail
5. Silver Bullet and Commuter Rail
6. HighRoad Technical and Management Briefing Book
7. Confidence in HighRoad Design
8. Selected HighRoad Design Illustrations

CC: California High Speed Rail Authority

NATIONAL RAILROAD PASSENGER CORPORATION
530 Water Street, Oakland, CA 94607

AMTRAK



December 9, 2005

Dan Leavitt
Deputy Director
California High-Speed Rail Authority
925 L Street, Suite 1425
Sacramento, CA 95814

Dear Mr. Leavitt:

Thank you for sending the Notice of Preparation of a Program EIR/EIS for the Bay Area to Central Valley segment of the High-Speed Train system. Please accept these comments on behalf of Amtrak.

As we stated in our August 31, 2004 comments on the Draft Program EIR/EIS for the entire high-speed rail system, Amtrak supports the implementation of a high-speed train system in California. To restate our position as it applies to the Bay Area to Central Valley segment of the system, Amtrak:

- Supports the implementation of a system and technology that cooperates with and is compatible with existing and planned intercity rail systems;
- Supports station locations that directly connect with existing and planned intercity and commuter rail stations;
- Supports substantial improvements to the conventional rail lines for faster, more frequent and reliable service, as indicated in the California State Ten-Year Rail Plan. (As the Amtrak-sponsored California Passenger Rail System 20-Year Improvement Plan was completed in March 2001, much of the data has since been updated and memorialized in the most recent California State Ten-Year Rail Plan.)
- Supports continued collaboration as the Authority progresses in the planning, engineering, environmental documentation and construction phases, particularly as the implementation of the plan directly affects existing and planned intercity services.

We are pleased to see that all the communities listed as potential station locations to be further evaluated are station locations for Amtrak services (San Joaquin, Coast Starlight and Capitol Corridor) and/or commuter services. We strongly support shared stations where feasible to allow for seamless passenger connections, or locating the high-speed train stations as close to the Amtrak/commuter stations as possible.

As the Authority considers alignment options that assume sharing corridors and/or tracks with other passenger rail services, we urge the Authority to consult with us as to the potential impacts and possible mitigations to negative impacts to the existing and planned intercity rail service. We offer our expertise in assisting with your analysis.

Thank you for the opportunity to comment on the Notice of Preparation. Amtrak is participating in the Bay Area Regional Rail Plan and will continue to monitor these developments closely. Please feel free to contact me as the Program EIR/EIS progresses.

Sincerely,

Elizabeth C. O'Donoghue
Principal Officer – Corridor Development West

cc: William Bronte, Caltrans
David Hughes, Amtrak
Gil Mallery, Amtrak
Paul Nissenbaum, Amtrak
Eugene Skoropowski, Capitol Corridor Joint Powers Authority
Michael Stern, Amtrak